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Pioneers in Education

A NEW SERIES OF MONOGRAPHS ON THE GREAT EDUCATORS

By GABRIEL COMPAYRÉ

Correspondant de l'Institut; Recteur de l'Academie de Lyon; Author of "Psychology Applied to Education," "Lectures on Pedagogy," "A History of Pedagogy," etc.

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PIONEERS IN EDUCATION

HERBERT SPENCER

AND SCIENTIFIC EDUCATION

BY

GABRIEL COMPAYRÉ

CORRESPONDENT OF THE INSTITUTE; DIRECTOR OF THE ACADEMY OF LYONS; AUTHOR OF "PSYCHOLOGY APPLIED TO EDUCATION," "LECTURES ON PEDAGOGY," "A HISTORY OF PEDAGOGY," ETC.

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CONTENTS AND SUMMARY

PREFACE

In publishing a series of monographs on the "Pioneers in Education," those of all nations and of every age, we have several aims in view.

In the first place, we wish to set forth the men who deserve to have their names on the honour list in the history of education, all who have in any remarkable way contributed to the reform and progress of the instruction and education of humanity; to represent them as they lived; to show what they thought and did; to describe their doctrine and methods, and their moral character.

But after having portrayed each heroic figure clearly, we must sketch in his background, the general tendencies of the epoch in which the reformer lived, the scholastic institutions of his country, and the genius, so to speak, of his race, in order that we may set forth in successive pictures the struggles and the progress of the civilized races.

In the last place, we wish to do more than merely write a historical narrative. Our ambition

is higher: it is to bring face to face ideas held long ago with modern opinions, with the needs and aspirations of society to-day, and thus to prepare the way for a solution of the pedagogical problems confronting the twentieth century.

In this series of monographs we have placed Herbert Spencer directly after J. J. Rousseau, because it is useful to give prominence to the very close descent of educational doctrine from the immortal philosopher of the eighteenth century, to the illustrious sociologist of our own time, who in the calm of his old age saw his fame still extending.

We are acquainted with no more genuine disciple of the author of *Émile* than the writer of the charming essay on *Education*. They, doubtless, differ profoundly in their general views regarding mankind and the universe.

Rousseau had not even a glimpse of the great law which is the keystone of the system of Mr. Herbert Spencer, the law of Evolution. The notion of progress without a defined limit is quite foreign to the former; and with his impassive Providence, his superstitious worship for a "Nature" created perfect, it would seem, at a stroke, Rousseau to-day may appear somewhat behind the times when compared with the evolutionist philosopher, who con-

ceives the life of the universe as a perpetual advance towards a perfection belonging to the future. But none the less they have sought in Nature, differently understood, but respected, and proclaimed supreme guide in education by both alike, the principle underlying every reform in education. Many pages of this great book on *Education*, — the substance of which we shall try to give in a very brief analysis — are little but a full and clear exposition and enlargement, an orchestral setting, as it were, of themes borrowed from *Émile*. The whole book is full of the inspiration of Rousseau, despite the fact that he is never mentioned in it. Mr. Spencer, in order to jealously guard his positivism from that of French origin, wrote a pamphlet entitled *Reasons for dissenting from M. Comte;* he might quite as well have composed another, entitled, *Reasons for agreeing with Rousseau.*

We dedicate this study, and those which follow it, to all who are interested in the cause of education, and who think, as we do, that this question is the vital one, the one upon which depends the future of the race, without which no social reform is possible; that finally, the progress of education is a question of life and death alike for society and for the individual.

HERBERT SPENCER

I

It is a question to what extent a writer, in order to compose a good book on education, should qualify himself professionally, and acquire professional skill in the art of teaching. Rousseau's example has shown that, however valuable may be personal practice and experience, a philosopher can compose an excellent treatise on how to train up a child without them. In order to define the great laws of instruction and education, it is not absolutely indispensable to have been a schoolmaster and taught a class. Montaigne, Fénelon, Locke, — not to mention others, — have given proof of being wise educators without having a claim to the title professionally. We might even venture to maintain that there are certain advantages to a writer on pedagogy in approaching the subject with a mind, so to speak, free, unprejudiced, and innocent of any "esprit de corps"; hampered neither by long-worn chains of tradition, nor by the idols of the schoolmaster, who, in short, is not by force of habit inclined to revere as articles of faith and unassailable truths those

methods and processes to which he has become attached himself by a long and close fidelity. It demands a certain amount of heroism in a professor or a "Schoolman" to reject a system of studies in support of which he has spent his strength and employed his life. Moreover, the workman's attention is absorbed in the details and technicalities of practice; he is buried, like "the good Rollin," in the difficulties of application; he has neither the leisure, nor at all times the mental power, necessary to grapple with the great questions underlying the subject. It is true that he sees things more exactly, for he studies them from a nearer position; but the theorist, provided he is in the least a philosopher, looks at them from a higher point of view, and though he may be in danger of straying amongst erroneous conceptions, ideas not controlled and verified by experience, still he is in a better position for laying hold of general truths, — those which escape the more limited vision of the practical teacher.

Mr. Herbert Spencer, who, like Rousseau, is merely a thinker and theorist, shows in his well-known essay on *Education, Intellectual, Moral, and Physical*,[1]

[1] *Education, Intellectual, Moral, and Physical*, is not, properly speaking, a book. It is a collection of papers which the author put together in 1861 for issue in one volume. The first chapter, *What Knowledge is of Most Worth*, had appeared in 1859 in the *Westminster Review*; the second and oldest, *Intellectual Education*, in the *North*

that the reflective power of a strong and profound mind, a mind which has examined all the problems of the physical and moral world, may to some extent supply a lack of professional experience. Certainly we shall have to make important reservations, and whatever may be our admiration for this ingenious and seductive work of Mr. Herbert Spencer, we shall not spare criticisms.[1] But his ideas, even those which are most positive and most closely systematized, — and those, perhaps, most of all, — deserve to be known, and we willingly subscribe to the judgment of a distinguished American teacher, W. H. Payne, now Professor in the University of Michigan, who wrote, in 1886: "The most useful and profound book which has been written on education since the *Émile* of J.-J. Rousseau is certainly Herbert Spencer's essay."

British Review, in 1854; the third and fourth, *Moral Education*, and *Physical Education*, in 1858, and 1859, in the *British Quarterly Review*. The author acknowledges that, as regards composition, the book is not ideal; but "the four together form a relatively acceptable volume."

[1] That is to say, we could in no way unite in the opinions on the one hand too favourable, and on the other too adverse, either for or against, which two French philosophers, Bertrand and Thamin, have expressed on Herbert Spencer. The former says, in the *Preface* to his translation, that it is not worth while to discuss in detail "theories which may be accepted almost without reserve." The second, that Mr. Spencer's book is "worthless and inconsistent." (*Education and Positivism*, p. 106.)

In the stupendous total of scientific work to which Spencer devoted his life and consecrated half a century of toil, this little book on education seems at first view but a slight thing. What are these couple of hundred pages, in which he lays down in summary fashion the essential principles of intellectual education and of moral discipline, in comparison with the many thousand pages in which the same writer has set before us a system of the universe and explained and defined all the forms of nature: how they had their beginning, their growth, and their evolution, not omitting to prophesy their future and their final dissolution? It is like a little island lost in an immense ocean of ideas. I should not be at all surprised if Mr. Spencer himself considered this rather hastily written early work — it dates back almost to his youth — as a relatively negligible quantity. It cuts a small figure by the side of the ten big volumes in which the English positivist, leaving far behind him the six volumes of the *Course of Positivist Philosophy* of Auguste Comte, successively formulated the *First Principles*, the *Principles of Biology*, *Principles of Psychology*, *Principles of Sociology*, and finally, *Principles of Morality*, having thus entered upon the most stupendous investigation into the universality of phenomena ever attempted and carried out by human intellect.

Nevertheless, out of all that Spencer thought and wrote, this short sketch of a theory of rational education has contributed the most, at least in foreign lands, to render his name well known and illustrious. Its success has been remarkable in every country, and especially in France, where several translations have run into ten editions: the first was published in 1878, when a reform of our scholastic institutions was just beginning. Of all the author's works it is, perhaps, this which has the greatest chance of surviving, for philosophical hypotheses are frequently very short-lived, and in the shipwreck of systems which a philosopher has with very great labour built up, it is sometimes only a few grains of familiar truth and good sense scattered negligently with prodigal hand, which mount to the surface and are collected as a precious, sacred relic by posterity.

Yet, let us not make the mistake of thinking that the composition of *Education* was a mere accident in Spencer's scientific career, — the passing relaxation of a few leisure hours. An evidence that he felt the paramount importance of his subject is the fact that he very frequently returned to it during the course of his publications.

Is it not, moreover, evident that a psychologist and sociologist such as Herbert Spencer, who was far from being a mere speculative scientist, inclined

to shut himself up with egoistic indifference in his ivory tower; who, on the contrary, probed the secrets of nature with an intense ardour, solely to derive therefrom practical results; who desired to understand mankind fully, only that he might contribute to their happiness; could such a man fail to interest himself in the solution of a question partly involving the future of individuals and of societies? Though nature appeared to him a result of the inexorable laws of evolution, the work of "a benevolent necessity," to use his expression, yet he did not the less understand that education, that is to say, human effort, — a double mode of effort, since it demands activity from both master and pupil at the same time, — has its place to claim within the narrow, determinist system of nature; that humanity, having been conducted along the necessary path of development by the unconscious will of heredity and evolution, has yet an obligation, and this presupposes the power to govern and train itself, in order that it may help in the progressive upward movement; that, in brief, nature could not do without the aid of human will entirely, will that is better enlightened regarding the end to be reached and the means to be employed. Hence this essay on *Education* appears to us like homage paid willingly or unwillingly by the philosopher of evolution and its

necessary laws — possibly at the cost of a contradiction — to the power of human liberty.

This is not the place to expound, even in briefest form, the *System of Synthetic Philosophy*. F. Howard Collins, a disciple of Spencer, merely to make an abstract of it, has written a volume of six hundred pages. Every system of pedagogy doubtless implies a philosophy; and we shall have occasion during the course of our task to indicate how Mr. Spencer's pedagogical notions are connected with his general conceptions, with the theory of evolution as understood by him, with his ethics and sociology. Let us note, however, now, that his essay on *Education* dates from a period when he was still groping after, and marking out, the great lines of his system, the elaboration of which did not actually begin until about 1854. The first volume of his *Synthetic Philosophy* appeared only some years later, in 1866. To profit by his reflections on the educative influence of science, the effectiveness of object lessons, the discipline of natural reactions, it is in no way necessary to have made oneself familiar with the technical terminology appropriate to his philosophical arguments. Neither "differentiation," nor "integration," "segregation," or "equilibration" are matters of importance here. Nothing reminds the reader of the luminous pages of *Education*, of

the complicated formulæ, deliberately rendered obscure to the uninitiated, which form the conclusion to the *First Principles;* for example, this passage: "Life is a definite combination of heterogeneous changes, at once simultaneous and successive, corresponding with coexistences and external sequences;" or again: "Evolution is an integration of matter accompanied by dissipation of movement, during which matter passes from indefinite, incoherent homogeneity, to definite, coherent homogeneity." When, at the beginning of his long career, Mr. Spencer let himself for a while be drawn aside from his purely scientific researches, to write an essay which, considered from the point of view of school studies, may be called the apotheosis of science, he desired to be understood of every one; and this book, not a fragment of his system and on many points quite independent of it, is distinguished by clearness of ideas, not less than by lucidity of style and vigorous ease of argument.

But if there is no reason for initiating our readers into the details of Mr. Spencer's speculations, — a task which for the rest would be impossible, — it may not be useless, before entering upon an examination of his pedagogical work, to make acquaintance with the workman, with the general tendencies of his mind. In that way we shall

understand how he was led to take up the question of education, and under what kind of inspiration he expounded it.

His long life, entirely devoted to study, can be briefly described. It was the unbroken life of a scholar, altogether occupied in writing and thinking. He never allowed himself to be turned aside from what he considered his mission in the world by any kind of distraction, whether of occupation or trouble. He did not even consent to accept academic honours; for example, he refused the title of correspondent of the Institute of France, which was offered to him a few years ago by the "Academy of Moral and Political Science." The only events, or almost the only ones, which broke the monotony of his industrious life were the successive publication of the different volumes composing the monument raised by Mr. Spencer to science and philosophy. Unfortunately, also, serious attacks of illness either delayed or entirely interrupted mental application several times, his brain suffering a kind of paralysis through overstrain. This malady first attacked him in 1855, when he was still a young man,—he was born in 1820,—and after a complete rest of eighteen months he could work only three hours a day. He had his hours of discouragement, and he endured reverses; thus he acknowledges that he published

books "which did not return what they cost," and he gathered "more fame than money."

How often, when completely laid up through nervous exhaustion, especially during the years 1886 to 1890, did he despair of ever finishing his colossal undertaking, a task completed only in 1896. . . . At that time, an invalid seventy-six years of age, a cry of satisfaction escaped him when he published his last volume. "My chief feeling about it," he said, "is that of being set free, liberated from my task. . . ." He who protested so often and so eloquently against overloading and overstraining the brain was himself a most conspicuous victim of this evil. He was one of several men of genius who have proved that physical weakness is no bar to intellectual strength. His illustrious fellow-countryman, Charles Darwin, the author of *The Origin of Species,* furnishes another example; Darwin's son tells us that "one of the chief features of his father's life was that for nearly forty years he never knew one day of the health of ordinary men." It might be said of both Spencer and Darwin that the life of these great toilers "was one long combat with fatigue and illness."

Spencer was not a man to expose himself to the public gaze. Like a philosopher, he remained hidden, whereas Rousseau published his life abroad,

not withholding even the details that are most personal and least fit for confession. We know little about Herbert Spencer's youth. He has not recounted, like John Stuart Mill, the course of his early education and the growth of his intellectual power. He has, however, told us enough to enable us to discover in the movements of his mind during youth the germs of his future vocation. He has spoken of his ardent devotion then to scientific research, and his inclination for the study of moral and social questions. Stimulus in this direction was present also in his own family. One of his uncles, the Rev. Thomas Spencer, a minister, appears to have been a philanthropist and friend of the poor, and to have taken an active and leading part in providing for the well-being of his fellow-citizens; in the village in which he lived for forty years as minister he established a school, a public library, and a clothing society. Nothing is lost in this world, and the example of the older generation suggests ideas and deeds to the younger generation. On the other hand, it is doubtless from his father that Herbert Spencer inherited his taste for observation and love of natural science. His father, a teacher in a humble position in the little town of Derby, was appointed in 1814 (six years before the birth of his son) secretary to a society of lovers of

natural science organized by Erasmus Darwin, the grandfather of the naturalist. He studied specially entomology, and the little Herbert, still quite a child, made, in obedience to his father's directions, small collections of insects from the neighbouring fields; in years to come he will collect in the same way, searching every corner and recess of the globe, an infinite mass of facts, — facts from experience and from records. "Whoever," he writes, "has not when a child collected insects and plants, knows nothing of the poetry shining over the fields and roadside hedges. . . ."

We must note that when Spencer first ventured before the public, he took up moral and political questions, and that these he never forsook. His first work, published in 1842, was an essay entitled, *The Proper Sphere of Government;* he already asserted in it the principle of progress, and although he published *Social Statistics* in 1850, he completed and crowned his system with his *Principles of Morality.*[1] He considered this part of his theory of especial importance. . . . "There is urgent need,"

[1] The last chapters of *Principles of Morality* appeared in 1892 and 1896. But already, in 1879, fearing that health might permanently fail, even if life did not end before reaching the last part of the task, Spencer had published the first part of the volume under the title, *The Basis of Evolutionary Ethics,* interrupting thus the proposed order of his publications, seeing that the second or

he said, "of establishing the laws of right conduct on scientific principles."

Such a profound moralist could not help becoming an educationist; and, moreover, in his intense pursuit of his goal, a goal encyclopædic in character, he touched on every subject. If we read only his three volumes of *Political and Scientific Essays*,[1] in which we pass from an article on "The Constitution of the Sun," or on the "Nebular Hypothesis," to dissertations quite as learned on the "Philosophy of Style," the "Origin and Function of Music," or, it may be on the "Ways and Proceedings of Railway Administration," we recognize that he is interested in every subject: education, then, could not be a matter of indifference to him.

Indeed, the chief characteristic of Mr. Spencer's intellectual activity is the extraordinary extent of his information about all subjects. Look at the list of what he calls his "references" at the end of one of the volumes of his *Synthetic Philosophy*, at the catalogue of authors whom he cites as authorities for the content of any one of his books, and you will learn the boundless variety of his reading. Is there any subject of which he is ignorant? Any authority

third parts of the *Principles of Sociology*, which logically should have preceded the *Ethics*, did not appear until after 1880.

[1] The *Essays* were translated into French by A. Burdeau in 1879.

whom he has not consulted? He quotes Aristotle and criticises Kant, but he is no whit less acquainted with the customs and superstitions of the natives of Oceania. He began life as a civil engineer, employed by a railway company; his genius for investigation quickly drew him away from this subordinate position; and his keen and eager intellect became enriched with all the wealth of modern science. He studied the moral and religious beliefs of mankind as much as the physical law of gravitation, and he observed the customs and costumes of many nations with the same care as the movements of the stars. He knew the Esquimaux and Papuans as well as he knew the ancient Greeks and Romans. He was acquainted with what is happening amongst the Fijians, and also with how they feed children in Paris and its suburbs; yet he could supply information to our poet and dramatist, M. Brieux, author of the *Remplacantes*. . . . Englishmen, thanks to their great colonies and their commercial relations with all parts of the world, are exceptionally well placed for studying human beings. Philosophers push their observations to every land to which the political influence or industrial expansion of England has extended. Hence Mr. Spencer has been able to satisfy his thirst for knowledge, and as preparation for his psychological and moral theories

he has laid under contribution all the civilized nations and savage peoples of the universe.

The objection might, indeed, be raised that Mr. Spencer has gathered with full hands observations made by other people, rather than made them himself. That is what Darwin gently insinuated in spite of the deep admiration he professed to feel for Mr. Spencer, when he wrote in 1866: "Were Mr. Spencer to make more observations himself, even at the risk of losing some of his power of reflection, — according to the law of balance and compensation, — he would be a marvellous man. . . ."

It is precisely this "power of reflection," this constructive power, which is Mr. Spencer's second distinctive feature. This collector of facts is also a reasoner, an inductive thinker. A tendency to generalize, a genius for synthesis, inspires and urges him on. No thinker surpasses him in the power of linking and coördinating ideas, and zeal for logical system. In this direction he is, indeed, the Auguste Comte of England, though he has always declined to acknowledge himself a follower of the French leader of Positivism; and, in a sharp defence of his incontestable claims to originality, he has marked his disagreement in bold relief in the pamphlet entitled, *Reasons for dissenting from M. Comte.* In this also he has merited the title of a "Spinoza in Posi-

tivism." He does not object to be called "Positivist"; and a Spinoza he is in the sense that he also has tried to construct a system of the universe by deductions almost as rigorous as the geometrical demonstrations of the author of *The Ethics*.

That Mr. Spencer and his bold speculations have not escaped criticism, opposition, and, most of all, indifference, in his own country, is not a matter for surprise. The English intellect, different from the German, tends to be timid in facing cautious and limited inductions, speculative theories; it prefers exact observations to hazardous hypotheses. Mr. Spencer has not lacked admirers, and these from amongst the greatest men of his time. Darwin was outspoken in expressions of sympathy. An elective affinity, moreover, could not fail to unite the naturalist who constructed, through observation of variations among species, the theory of natural selection and of the evolution of the race, with the philosopher who by bold generalizations aimed at explaining and interpreting all phenomena "in the order of evolution." When Darwin, in 1859, published his *Origin of Species*, he could not have found a reader better prepared to understand and appreciate it than Herbert Spencer. Several times Mr. Spencer had written to congratulate him on his "admirable" labours. From the year 1852 the two evolutionists

were associated in a scientific friendship (as Renan and Berthelot in France), and this never changed. "I presume," Darwin said, in 1870, "that later Mr. Spencer will be considered by far the greatest philosopher of the present century, if, indeed, he is not held equal to the greatest of the philosophers of the past ages." J. S. Mill also rendered him no slight measure of homage in his book on Auguste Comte: "Mr. Spencer is one of the most profound thinkers yet sprung from English philosophy, a man imbued with a truly scientific spirit." We shall find this "truly scientific spirit" the inspirer of the scheme of education outlined by Mr. Spencer.

Moreover, to all his other gifts the author adds an excellent style, a feature which has certainly contributed to the success of this book. If the course of studies proposed by him in a spirit of scientific exclusiveness is such as would hinder the acquisition of literary power amongst students adopting it, Mr. Spencer is far from despising literary qualities himself. The art of exposition and of setting forth abstract ideas in order, clearly, fully, and easily, has never been carried to a higher point by any philosopher. Ingenious comparisons, brilliant similes and figures of speech brighten the heavy mass of solid thought. The weighty erudition of the scientist does not suppress the sallies of a humorous

talker. He likes to relieve the monotony of a dissertation by popular expressions. He tells us what Hodge and Giles said, "after comparing notes over their respective pigsties." He listens to the conversation of farmers seated around the table of a village inn after church service on Sunday. And yet a careful method dominates the order in which his brilliant and varied ideas are set forth. It might be said that the writer was giving loose rein to the eager flight of his thought and fancy. Not so; he is on guard, and quite their master. At the end of each fully developed notion he reviews and condenses the essential points in simple and forcible phrases. If at times he repeats himself, that is because he is seeking twenty different ways, each interesting, of kindling the imagination of his readers. In short, this book on *Education* shows no trace of the heaviness characteristic of didactic treatises; it has all the charm of an agreeable conversation: lively wit, and what one writer has even called "rough good humour." Mr. Spencer is one of the fortunate writers who, after spending years with the patience of a Benedictine friar in preparing enormous learned compendiums, can yet wield, as if for sport, a facile pen in the composition of sparkling articles for reviews.

II

One can quickly gain an insight into Mr. Spencer's intentions concerning education by quoting a passage in which he uses the Cinderella fairy story to describe the approaching discomfiture of literary studies and the decisive victory of science. "Paraphrasing an Eastern fable, we may say that in the household of knowledges science is the household drudge, who in obscurity hides unrecognized perfections. To her has been committed all the work; by her skill, intelligence, and devotion have all conveniences and gratifications been obtained; and while ceaselessly ministering to the rest, she has been kept in the background, that her haughty sisters might flaunt their fripperies in the eyes of the world. The parallel holds yet further. For we are fast coming to the *dénouement,* when the positions will be changed; and while these haughty sisters sink into merited neglect, Science, proclaimed as highest in worth and beauty, will reign supreme." Nothing could be more clearly stated: literature will decline and fall, even the merit of contributing its share to the

pleasures of life would seem to be denied; science — henceforth ruling the school as it now rules the world — is to triumph as supreme sovereign. In the ancient quarrel of humanism *versus* realism, Mr. Spencer took sides decisively. He did not hesitate in the least between the claims of rival specialists who are constantly renewing the scene in the *Bourgeois Gentilhomme*, where a teacher of philosophy and a teacher of dancing each demands the first place for his own subject, and wrangle over the control of the curriculum. To the all-important question, "What knowledge is of most worth?" he makes the reply, "Science, science as a whole, every science." [1]

This strife is not new. It has burst forth several times and aroused passionate reprisals; and, in spite of Mr. Spencer's emphatic conclusions, we may deem the question still unsettled. At any rate, that was the case in France in 1837, when, in a discussion worthy to be remembered, Lamartine, with all the charm of his eloquence, defended the cause of classical literature. He claimed for it the honour of being the vehicle of moral ideas, a sacred portion of the inherited wealth of civilization: "Without literature," said he, "humanity would perish;"

[1] On this question of *Educational Values*, see Chapter VI, in Bain's *Science of Education*.

on the other hand, Arago, with all the authority of his learning, asserted the superiority of scientific studies. Nor was it settled in England in 1836, when the philosopher Hamilton replied to Dr. Whewell, who desired that education should be established on a basis of mathematics, as was then becoming the practice at the Cambridge University. Hamilton pronounced in favour of literary studies, and he proved forcibly that education, if reduced to the abstract sciences, would be narrowed and stunted. "Geometry," to use the expression of Voltaire, "trains upright minds only." In this particular controversy, however, it was only a question of mathematics, whereas Mr. Spencer took the larger subject and discussed it in all its breadth —the whole of science in its universal aspect *versus* the classic humanities. The dispute was not ended in 1866 when J. S. Mill, in a speech before the University of St. Andrews, refused to sacrifice either study in favour of the other, holding that both contain elements equally indispensable for education; he exclaimed on that occasion, with a vivacious freedom of speech: "Do you ask whether we should resort to languages or to science in order to organize general education, that is equivalent to inquiring whether painters ought to be artists with the pencil or with the brush, whether a tailor should make coats or

breeches; why not both, I ask?" And it seems as if the question were not finally decided even to-day. During the course of the important inquiry lately carried out by the French Parliament, certain voices, even those of humanists, asserted that classical literature is condemned to disappear sooner or later. Other witnesses, and these not the least important authorities on French education, without denying the legitimate and increasing need of instruction in science, persisted in demanding for literature the first, if not the only, place as culture material.

Nevertheless, the friends of scientific education are numerous, and they do not date from recent years only. Mr. Spencer had predecessors: Rabelais, Condorcet, and many others. Diderot may be specially mentioned. He, before Auguste Comte, tried to classify the sciences in order of rank, according to their measure of utility or power of serving universal needs. In his scheme of studies he scornfully relegated literature to the last school years. Even poets have protested against the abuse of literary studies. Milton, three hundred years ago, groaned over the lot of schoolboys obliged, by a wrongly conceived education, "to glue their faces," he said, "to the platitudes of the grammarian." The farther mankind advances, the more they desire instruction in science. In France, M. Berthelot in-

sists on "the need of habituating children in early years to scientific conceptions and methods," classic instruction "becoming more and more reserved for the minority." Even Renan states that "scientific investigations should not be left only to amateurs and inquisitive minds." [1] For England, it suffices to cite Lubbock, who asserts that scientific education is "a national necessity." Lastly, Darwin agrees with Mr. Spencer about reform in education as well as about the origin of species. When, in 1852, he was engaged in educating his seven children, and resigned himself to sending the eldest of his sons to Rugby Public School, he wrote: "No one could despise more sincerely than I do the stupid stereotyped education of former days, and yet I lack the courage to break its chains." Mr. Spencer broke them more than once. But, above all, he attempted what had not been done hitherto, to demonstrate fully and methodically the utility and the paramount importance of science considered as the essential factor in determining a man's fate in life, and hence the instrument of his education.

For what end is a man born? To be happy. Happy, but certainly not in the sense a foolish egoism or narrow utilitarianism sometimes imagines;

[1] *Les Services que la science rend au peuple*, a conference held in 1869 and published in the *Grande Revue*, June, 1901.

happy in the noblest sense of the word, comprehending the happiness of others equally with our personal well-being, — the satisfaction of altruistic sentiments as well as of egoistic inclinations. Happiness signifies a life in which all essential activities find exercise, lived out to the full. It is a life of the relative perfection of human beings who are still far from the goal of their evolution, for the day will come when mankind will be absolutely perfect. Humanity may reach perfection in this world, but only after passing through a long childhood, long ages of labour. Provided that men live long enough, and that the constitution of things remains as it is now, the modifications which they are experiencing and those yet to come must culminate in perfection. It is certain that what we call evil and immorality will finally disappear. It is certain that the destiny of man is to be perfect. . . . Philosophers used to place the golden age in the past; perfection they looked upon as the direct gift of the Creator to his creature. Mr. Spencer greets it afar in the future as the work of centuries of effort on the part of nature, the result of the ceaseless progress of a humanity moving towards perfection from age to age. Little by little a wealth of new sentiments are grafted on to a trunk of primitive instincts, and, finally, thanks to hereditary accumulations, we shall

have insensibly entered into, and consolidated, our full patrimony. Rousseau's ideal man was an imaginary primitive being, formed by Providence all at once. The "full" man of Spencer is the hard-won product of evolution and heredity,—not a Pallas Athenæ who steps full armed from the head of Jupiter, but the offspring of a race which in its last expansion reaches the goal of its evolution. He is a being elaborated by successive generations, a being in whom all the qualities, gradually acquired, will be summed up, and who, by means of progressive adaptations, will have gained the power of living in society, "as a fish lives in the water and a bird in the air." Then man will have become, if not a god, yet at least a perfect animal, directed in everything by excellent, infallible instincts. Altruistic sentiments transmitted by heredity will exercise an all-powerful influence on his conduct. He will accomplish moral actions with ease, as a bird builds its nest, and a spider spins its web. Effort and struggle to avoid evil and follow the good will cease. Obedience to habits formed by ancestors, and transformed as they pass on from one generation to another into irresistible instincts, will be pleasant and easy.

Still we are far from this terrestrial paradise, which at present is a mere dream. We are only crossing

one of the stages along the route thither, and meanwhile, until evolution and heredity have accomplished their task, we must think of man as he is, — man yet very badly adapted to the conditions under which he must live. He must be made ready, as far as possible, for that perfect life which is the goal of human destiny. We are yet in a state where effort is necessary. And hence the need of education becomes evident, however much its efforts may be weakened and limited by the inexorable laws which rule over the onward march of humanity. Besides this, education does not only prove advantageous to those who receive it; it helps to form the character of the children of educated people before their birth. The more the present generations regulate their actions according to laws prescribed by education, the more fruitful will be the springs of life transmitted by them to following generations. It is clear that from this point of view the mission of education assumes a still wider and nobler aspect, since it is no longer a personal matter, — the interest of the individual, — but is the interest of the whole of humanity, the progress of which will be retarded or hastened according to the degree in which teachers during each period have accomplished their task, whether well or ill.

What, then, will be that education which may be

defined as an individual and provisional preparation for the complete and finally determined life of humanity as a whole? To discover this, we must first decide what are the elements of a complete life; we must enumerate and classify the various forms of activity which constitute it. When this has been done, we shall know what is man's true destiny, and in consequence we shall have a criterion, — a standard of appreciation which will enable us to make a rational choice amongst the different subjects of study, and decide the relative value of the various knowledges; for any knowledge will have value in proportion as it favours more or less the exercise of those essential activities which conduce both to individual and social happiness.

Nothing could be clearer than the picture of the manifold functions of life sketched by Mr. Spencer. He distributes them, certainly, under distinct categories; but he does not forget to note that they are closely linked and fused the one with the other, that they form a whole, a mass, no element of which may be omitted and neglected without injury.

The first business of a man is to live a healthy physical life. If he does not know how to guarantee health and strength, he will be unfitted for activity of every other kind. It is then expedient, when classifying the different human functions, to

put those acts which tend directly to insure personal preservation in the first rank.

But to be well and healthy is not enough; we must also be able to earn daily bread, and even something more. From this springs a second group of activities, those which concern the production and acquisition of material things, all things necessary for life, and which also assist, though indirectly, in securing personal safety and preservation.

When the individual has secured means of living in comfort, the horizon widens before him. A man should employ his strength in the service of his family; so a third category of his labours includes those which aim at nourishing and training children.

The cares of the citizen come next to those of the family. These involve a new series of activities which are, however, subordinate to family duties; for family prosperity is the foundation of the prosperity of the city.

Lastly, human existence is completed and crowned by the exercise of activities which we may express by one word, "æsthetics"; these, making use of our hours of leisure, satisfy feeling and taste in the disinterested enjoyment of literature and art.

We can see at once what will be the education constructed in answer to this conception of life, — a positive and practical education, planned for indus-

trial and business people, in which a liberal culture of human faculties enters only by way of complement; where instruction in literature and the fine arts, being left to the last place, subject, also, to the possibility of spare time, seems almost like a mere accessory. The fact is, that in the classification proposed by Mr. Spencer there is a gap,—a serious omission. The reproach has been made against certain educationists, and especially against Rousseau, that they exaggerate the value of the individual ("l'homme en soi"), that they sacrifice the useful to the ideal, and neglect adaptation to the needs of life for general culture of the faculties. We must bring against Mr. Spencer the opposite reproach. He considers the workman, the artisan, the father of the family, the citizen, but he altogether forgets human personality. It seems as if he were not concerned at all about those inner activities which make a man what he is, which develop his intellectual and moral qualities, his conscience, his intelligence, his feeling, and his will. His pupil would be stuffed with the knowledge appropriate to the needs of a useful life, but we do not find him prepared for the obligations of morality. He would live longer than other men. He would succeed better in business affairs. But how would he learn to be good, wise, prudent in judgment, strong-willed, —

in short, a true man? We ought not to say, possibly, that he would be nothing but a machine adapted to the satisfaction of material and egoistic needs on the one hand, and on the other to the requirements of family and social life. But he would certainly not have been educated in himself; nothing would have been done to insure personal development and perfection.

In his list of human activities, therefore, we shall ask Mr. Spencer to insert in the second place, immediately after those which have regard to the care of the body, activities which train the moral sense, which form the personality in its full strength and dignity; the activities which every man, however humble and poor, employs, and by employing, develops his conscience, his heart, and character. If this correction is accepted, the whole plan of life and, in consequence, of education will be changed; for literature will then claim higher rank than the humble place conceded to it by Mr. Spencer, — merely a means of recreation, of distraction, an addition to a life the needs of which are already satisfied; it will demand a place preserved for it by the side of the sciences, as a means of general education.

This reservation granted,—it is, however, of first importance, and in proportion as we follow out the subject in detail its force will become apparent,—

everything else in this part of Mr. Spencer's exposition deserves praise. The whole statement is eminently clear; he establishes the imperative need of scientific instruction to enlighten and direct those human activities which he desired should be cultivated. His luminous exposition should here be quoted word for word

In the first place, in regard to preservation of the individual, it is easy to show that a man is exposed to great dangers if he has not studied physiology and is unacquainted with the laws of life. In this part of education, "Nature" herself, for that matter, assumes the chief rôle. Since health is, of all things, the most important, for it is the condition of everything else, "Nature" did not wish to leave its fate at the mercy of our ignorance or stupidity; she has taken the duty of providing for it into her own infallible control. The sensations with which "Nature" has provided us, — the necessity of taking food, the appetite which guides even the baby at the breast, the feelings of cold and heat, brain fatigue, — these all give warning of our needs, or reveal to us the perils that threaten us. They are authoritative counsellors, whose advice we are obliged to follow. In brief, to quote Mr. Spencer: "To speak teleologically, Nature has provided efficient safeguards to health," vigilant sentinels who mount guard around

our bodies. This is the first, but not the last, time that we find the philosopher of evolution appealing to "Nature" as to a kind of "Providence," who watches over the interests of humanity. There is, then, nothing to be done but to let "Nature" alone, to respect her indications and profit by them: that is what Rousseau had already desired.

But it is necessary for us to add conclusions drawn by science to the instinctive suggestions of Nature; it is in this that Mr. Spencer continues and completes the work of Rousseau. How many people are subject to chronic illnesses or to sharp attacks, to general debility or to early decay and death, through ignorance of hygienic precautions and physiological laws! "Our physical sins," as Mr. Spencer terms them, make life into one long mortification, into a burden or torment, instead of it being the continuous pleasure and blessing that it might be.

We have nothing to say against this; but the objection raised above is disturbing, and it causes us to hesitate. Science is certainly necessary as a guide in caring for our health; but is it enough? Are knowledge and ability the same thing? Above all, are to know and to desire — to will the thing — the same? Hygiene instructs us as to the physical ills that follow imprudent actions; is that enough

to inspire the will and the strength to avoid such actions if they are pleasant? In order to resist pleasurable temptations, the injurious effects of which are well known to us, is it not indispensable that we should be armed with more than scientific knowledge, that we should be at least imbued with the feeling of our dignity as human beings? Does not Mr. Spencer himself, indeed, acknowledge in his chapter on "Moral Education" (by a contradiction to which reference has already been made,[1]) that knowledge is not conscience, much less is it will.

Science, then, is necessary to aid nature in its task of personal preservation; it is not less necessary to insure success in the whole field of professional enterprise, and also to provide every man with the means of gaining his livelihood. We need not dwell upon this; Mr. Spencer has here no opponents. Who would desire to dispute with him the indispensability of technical instruction; that the production and distribution of wealth — that is to say, industrial and commercial operations — are rendered possible only by a knowledge of physics, biology, or other sciences; that both the producer and the merchant require mathematics; that the surveyor, architect, and mason alike depend on geometry; the builder, the mechanic, and the agriculturist on

[1] Mr. Bertrand, *L'Enseignement intégral*, p. 198.

chemistry; in fact, that "there is hardly a single industry nowadays which does not rely upon chemical science. . . ." As Arago said, in 1836, "Sugar is not made from beet-root by fine words," and "soda is not extracted from sea-water by Alexandrines." No unbeliever or opponent is found to detract from the praise of science for the services which it renders to material interests. Everybody acknowledges that it has inspired innumerable inventions and modes of application which have transformed the world; that it has been able to provide the peasantry with comforts formerly even out of the reach of kings. For these reasons, scientific teaching, adapted to the needs of the various professions, should spread by leaps and bounds; all the industrial nations, and especially Germany, understand its importance. But is it true that it answers to all human needs? Amid the varied positive and practical branches of education which Mr. Spencer with justifiable enthusiasm recommends to us, does he not forget something? Education itself. Science has analyzed the physical forces and yoked them to man's service. But, although science has succeeded in setting in motion and launching across space its steam-engines and electrical machines, is it fully proved that it is also able to develop and train the moral forces without which mankind,

despite his fulness of material wealth and the ocean of machines swelling around him, will remain in a lower and more degraded condition than that for which his destiny had designed him?

To turn to another question, Is Mr. Spencer sufficiently concerned about knowing whether instruction in science is appropriate for every age, whether it can be really grasped by young children? There are some difficult sciences, and in all the sciences some parts are obscure. Will the mind of the child be able to understand them, especially if, as in Mr. Spencer's scheme, he is not prepared for them by a previous general culture? J. S. Mill's suggestions in the lecture from which we have already quoted are surely much sounder: "Special knowledge is sought after only by a certain number of young men, and it is only when they have completed their education, properly so called, that they should be permitted to enter upon it. The good or bad use which they will make of each knowledge will depend chiefly on their mental character, and character can be formed only by general education. Before being lawyers, doctors, merchants, or manufacturers, they must be men. . . ." In this matter it is J. Stuart Mill who is in agreement with Rousseau.

While a man is acquiring the professional knowledge which will permit him to succeed in business,

he is not working only for himself, he is assuring a competence for his family. But the care of a family demands more than that the future father and mother have been initiated into the art of training children. In present-day education no steps are taken to prepare the parents to be the first educators of their sons and daughters. With the touch of humour characteristic of Mr. Spencer, he writes: "If by some strange chance not a vestige of us descended to the remote future save a pile of our school-books or some college examination papers, we may imagine how puzzled an antiquary of the period would be on finding in them no sign that the learners were ever likely to be parents. This must have been the *curriculum* for their celibates, we may fancy him concluding. I perceive here an elaborate preparation for many things, especially for reading the books of extinct nations and of coexisting nations (from which, indeed, it seems clear that these people had very little worth reading in their own tongue), but I find no reference whatever to the bringing up of children. They could not have been so absurd as to omit all training for this gravest of responsibilities. Evidently, then, this was the school course of one of their monastic orders."

Mr. Spencer will not be to blame if things are not different in the future. No question lies nearer his

heart. "Is it not monstrous," he says, "that the fate of a new generation should be left to the chances of unreasoning custom, impulse, fancy, — joined with the suggestions of ignorant nurses and the prejudiced counsel of grandmothers?" But we must repeat again and again, before men will listen, that a study of the natural laws of the development of body and mind is the first duty of parents. Mr. James Sully will say the same thing thirty years after Mr. Spencer in his *Studies of Childhood*. He will remind mothers especially that "it is indispensable that they should have an intimate knowledge of the nature of the delicate little speechless beings to whom, after having transmitted life, they should now give a soul, in order that they may lead them upward along the path of humanity." How many mothers have responded to this appeal? . . .

The training of citizens is no less obligatory than the training of parents. Here, again, science is to be the teacher — but which science? Doubtless, history — but is history a science? It does not appear in the classification of the sciences tabulated by Mr. Spencer. As we are aware he distributes the sciences under three categories: abstract sciences, logic and mathematics; abstract-concrete sciences, mechanics, physics, chemistry; and, finally, concrete sciences, astronomy, geology, biology, psy-

chology, sociology. In any case it cannot be the customary history, the mass of dead facts taught in schools and colleges,—a sterile kind of learning,—or aristocratic history which wastes our time in telling us incidents from the life of monarchs or from diplomatic and court intrigues; nor will it be military history, the history which enumerates the *Fifteen Decisive Battles of the World.* Is a citizen necessarily more enlightened about his vote at the next elections because he is acquainted with affairs of the past of no importance to-day? By no means. We may, if we will, study the trivialities of history from curiosity, or for amusement; but they can have no practical influence on the actions of our contemporaries. The history which is important in the past and present both is the history of the people, of their institutions and customs, their beliefs and laws; it may be described in a word as *Descriptive Sociology,* and it should help us to penetrate into the inner life of social groups, explain their progress, their intellectual and moral condition during various centuries, and also their industrial organizations, trades, and corporations; in short, it should reveal to us the laws of social evolution.

There is much to reply to this. Can we agree with Mr. Spencer that the history of military affairs, of the great heroic struggles which have decided the

fate of whole nations, is of no value in forming the character of the citizen? Mr. Spencer sacrifices here, as always, the education of the emotions to positive instruction. His citizen would be able to analyze the institutions of his country; but will he have learnt to love it? Will he not lack the one thing that can make all knowledge, even the fullest, of use, — a reverent loyalty to the constitution, a love of humanity and patriotic enthusiasm? On the other hand, how can we agree to eliminate from historical studies the biography of great men and the narrative of noble deeds? Mr. Spencer relies too much on nature, on what he calls "moral intuitions," — a kind of instinct acquired slowly through successive generations. There is, without doubt, a mysterious hereditary transmission from parent to child through the blood; but should there not be another kind of communication between one generation and the next, also of value, — communication based on conscious imitation, on a rational admiration for fine examples of past ages?

Mr. Spencer's *Education* comprises everything that is essential for forming positive and practical minds. But nowhere in the book is any concern to be found for the training of the emotions and sentiments of the heart. The final limit of human activity as conceived by the author, literary and

artistic education, these, under Mr. Spencer's treatment, reveal the same lack, — a want of feeling and inspiration. One must become an artist or a poet by first becoming a scholar. This is no new paradox. Diderot said that the real poet is a living encyclopædia, and that the characteristic feature distinguishing Voltaire from his rivals is "knowledge." Mr. Spencer puts forth specious arguments to justify this position. Since Art — painting, sculpture, or poetry — is only the representation of natural beauty, or of the inner emotional life, an artist cannot succeed in his work unless he is first of all a naturalist or a psychologist. Also, in order to forecast his effects, to discover the right tone, an artist must realize the kind of impressions and emotions which his works will produce in the minds of his hearers or spectators; therefore, on this side, a knowledge of psychology is also required. Necessary for the production of art, science is therefore necessary for its appreciation. And, lastly, there is not the opposition between science and art which is commonly imagined; Mr. Spencer shows us in charming language that science is full of poetry. Think you (he says) that a drop of water, which to the vulgar eye is but a drop of water, loses anything in the eye of a physicist who knows that its elements are held together by a force which, if suddenly liberated,

would produce a flash of lightning? Think you that what is carelessly looked upon by the uninitiated as a mere snowflake does not suggest higher associations to one who has seen through a microscope the wondrously varied and elegant forms of snow crystals? Think you that the rounded rock, marked with parallel scratches, calls up as much poetry in an ignorant mind as in the mind of a geologist, who knows that over this rock a glacier slid a million years ago?

That science may be poetry, that it opens up fresh sources of inspiration bursting forth from observation of nature, granted! But whether, in forming a poet, science may be substituted for literary studies, this is quite a different question. In any case, science will not give him practice in the art of expressing his thoughts; neither can the lyric poet owe to science the peculiar enthusiasm with which he is animated. To say that the dramatic poet is a scientist because he "observes" the ways of men is to play with words, for his observation is in no way scientific. However, let us stop here. If there is a "soul of truth" amid Mr. Spencer's errors, we must admit that it is well hidden under sophistical exaggeration. How can it be maintained seriously, for instance, that musical compositions are bad only when they lack truth — in

other words, science? Science, yes; but science based on artistic initiative, on a study of musical masterpieces, and, above all, on warmth of feeling and glowing inspiration; and these have nothing in common with the inductions and deductions of pure science.

Above all, objection should be made to Mr. Spencer's reduction of æsthetic culture to the place assigned to it: "Postponing them (literature and the Fine Arts), as we do to things that bear more vitally on human welfare, . . . we yield to none in the value we attach to æsthetic culture and its pleasures. Without painting, sculpture, music, poetry, and the emotions produced by natural beauty of every kind, life would lose half its charm. . . ." He is none the less convinced that in education, as in life, taste may dictate our occupations during leisure hours only. Leisure hours will doubtless increase when the forces of nature have been completely subdued and rendered useful to man. Renan also dreamt of a time when the progress of science would become, as it were, "the redemption of the workman"; when, relieved of material cares, humanity would be free to pursue æsthetic pleasures. The same idea had been expressed by Richard Wagner already in 1850, in his book on *Art and Revolution*. The error consists in confining art and literature within a purely

recreative sphere. Mr. Spencer looks upon them only as the "efflorescence" of civilized life. In consequence, we must concern ourselves with them only in the last place, as the gardener with the flower of a plant when he has provided for the growth of its roots, stem, and leaves. On the contrary, we hold that æsthetic culture is indispensable in order to provide for the human plant its substance, — the moral nutrition which it needs. Æsthetics are not merely the crown of civilization; they are its foundation, one of the essential principles of intellectual life.

So far, Mr. Spencer has considered science only as the guide in life, as the light illuminating the path of mankind. But he knows well that the question is not exhausted, and that objections arise. To answer these, it would be necessary to prove that science is not simply a store of useful knowledge; that it is educative as well as instructive; that it "forms" the mind as much as it "informs" it; that while instructing, it also disciplines the mind. This is the crucial point, and we must acknowledge that our author treats it somewhat lightly. He is as moderate and brief in explaining this second part of the question as he roamed at ease over the first. "We are obliged," he says, "to treat this division of our subject with comparative brevity;" and he devotes to it, in fact, only five or six pages. When he

adds that "happily no very lengthened treatment of it is needed," we are far from sharing his opinion; it is the chief question, — a question important above all others.

The general reason expressed by Mr. Spencer to justify his faith in the educative value of science gives a shock of surprise. It is an argument *a priori*, drawn from the finality of Nature and its wise and benevolent intentions. "We may be quite sure," he says, "that the acquirement of those classes of facts which are most useful for regulating conduct involves a mental exercise best fitted for strengthening the faculties." To think otherwise "would be utterly contrary to the beautiful economy of Nature." In other words, "Nature" knows very well what it is doing; it cannot make a mistake and form a plan useful and good for one thing, useless and bad for another. Let us admit that this is pushing optimism and teleological faith a long way. It makes a false use of Nature, treating it as an infallible and foreseeing power, wholly concerned in economizing the time and strength of man. Mr. Spencer personifies, almost deifies, Nature — we note that he writes the word always with a capital letter. We must not be too astonished at this. The doctrine of evolution, despite its positivist aspect, is a philosophy which in reality attributes the highest degree

of intelligence to things in themselves; it asserts that Nature, by its unconscious, but sure and regular, work, produces gradually an ordered, harmonious world. It has no preëstablished and predetermined harmony, such as that of the old philosophy; but it has a harmony in process of becoming, so to speak, in the act of organization, which is being realized from day to day, — a work carried on ceaselessly by a mysterious and unknowable intelligence which presides over the destiny of the world.

Mr. Spencer, however, is not satisfied with this expression of faith in Nature for that would be running away from a difficulty. He wants to discuss it and "pass on to proofs." But the discussion is short and his proofs insufficient. His demonstration amounts to this: that the study of science can exercise memory and judgment as much as the study of language. If it were simply a question of learning names and faces by heart, it is evident that the sciences would present the child with a field as vast, and perhaps more vast, than that of language. Let us take, for example, natural science. Simple and compound bodies, the stars of the Milky Way, the three hundred and twenty kinds of plants, the two million forms of animal life — these can furnish the memory of a pupil as well or better than the dates of history or the thousands of words of

any language you like to mention. But, what would the child gain by the change? It is true that, according to Mr. Spencer, science ranks above literature as an instrument for cultivating judgment, and weakness of judgment is a universal evil. But it is by no means generally accepted that exercises in translation — an essential part of the study of language, whether living or dead — do not tend to cultivate judgment and reason. Could it be maintained that science by its personal observation, its demand for experiment and verification, and its rigorous use of demonstration frees the mind, and that literature, on the other hand, enslaves it? The dictionary imperatively declares "the word means so and so"; the grammar states that "this is the rule"; thus the study of language increases a servile respect for authority. But, on the other hand, science, at least the part of it which can be taught to little children, has also its rules and axioms and its yet more absolute formulæ *dictata*. Moreover, the study of literature is not limited to the study of words and of the laws of syntax; must we reckon for nothing the beautiful thoughts and noble sentiments that we gather from the works of great writers, and all those eternal truths which help to liberate the mind and heart?

In this very controversial question of the educa-

tive value of science, there is one specially interesting point: the sciences are very different in aim and method, and they cannot, therefore, claim to exert the same influence in mental discipline, granted that they exert any influence at all. Mr. Spencer has examined this delicate subject, not in *Education*, but in a book published a few years afterwards, *Introduction to Social Science*, 1873. He there maintains that it is only through science that we can acquire good habits of thought; but he recognizes that the sciences differ, and that each of them tends to discipline the mind in a unique and limited sense. He does not conceal the dangerous effect of every exclusive study. "Men who have a great aptitude for observation are rarely clever in generalization," and reciprocally. There is antagonism between perception and reason. Any intellectual discipline whatever, when it is abused, overdevelops certain faculties and leaves others to atrophy. The abstract sciences, for instance, make plain the necessary relationship of cause and effect, of conclusion and premises; but there is a reverse side to this medal: a mind trained in mathematics, with this peculiar bent, is not skilled in unravelling practical problems, with their contingent circumstances. Well practised in the solution of questions, the premises of which are simple and clearly defined,

the mathematician becomes bewildered and loses his way amid complex and uncertain concrete realities. We must find the necessary corrective for the limitations and defects of mathematical training in other sciences. Mr. Spencer, continuing his analysis, meets finally with a like effect in every science. . . . The chief inference to be drawn from this is surely that to form an all-round mind we must not instruct in one science only, we must teach all sciences in order that the special tendencies developed by one may be corrected by another. Now to do this is impossible. Life is too short for a man to cover all the studies. "What a perfect woman I should become," said Madame Sévigné, "if I were to live two hundred years." How wonderful would be the intellect of a man who had the time to learn all that might be taught him! Since our life is "but a span," we are compelled to choose, and even Mr. Spencer appears to be perplexed what to choose.

At times, paying no regard to the shortness of life, and hence of study, he appears inclined to demand from students efforts that are superhuman, and that aspire to compass the entire field of knowledge. In this connection he draws an ingenious analogy: Let us imagine (he says) a room splendidly decorated and lit by only one candle, which is placed in a cor-

ner; it can illuminate only one bit of the decoration; all the rest is plunged in darkness. Let us imagine, next, that a hundred electric lamps are suddenly lit, and that they illuminate the whole of the vast chamber and everything in it; here we have a picture of the spectacle presented by nature to an intellect partially cultivated, on the one hand; on the other, to a mind in which shines the light of all the sciences.

This picture is fine, but it does not correspond, in the intellectual breadth it presupposes, to the modest results contemplated by the pedagogy of Mr. Spencer. The scientific instruction extolled by him is, indeed, very far from what we understand as an "all-round education." It is true every one, merely to keep himself in good health and fulfil his duties as parent and citizen, is urged to study physiology, psychology, and also elementary sociology. But beyond these subjects, required generally, there is for each student only a partial initiation into one restricted domain of science. If men were obliged later to follow all professions, one after another, it would doubtless be necessary to cover the whole field of science; but, since he can have only one trade at a time, he is called upon to examine only the knowledge that has gathered about his special occupation. In this way Mr. Spencer, who introduced

himself as an apostle and a somewhat ambitious apostle of universality in scientific instruction, at the end of his discussion turns out to be a rather ordinary advocate of professional education.

In the last place, in view of the probable effects of an education purely scientific, and which could be beneficial to the intellect only if it covered all sciences, — an impossibility for adults, and still more so for youths, — and since such an education is, perforce, partial and restricted, and hence will develop certain faculties to the injury of others, are we not justified in questioning whether the best intellectual discipline may not be expected from a flexible and varied plan of studies, — one in which fair scope, but not the whole field, is granted to science, and where literature keeps its legitimate influence? By thus calling to its aid manifold instruments of instruction, the teaching process is able to arouse the whole range of higher intellectual faculties: it is able to exercise the judgment as much as the memory, the imagination as much as the reason; and, as J. S. Mill has said, our pupils will at the end know not only their chief occupation thoroughly, they will know also something of all subjects interesting to humanity and which are able to assist in the development of a perfect mind.

III

THE general principle of education has been set forth; it is the acquisition of scientific knowledge. It now remains to be seen how Mr. Spencer applies this to education in its intellectual, physical, and moral aspects.[1] In the chapter devoted to intellectual education, three parts may be distinguished: a very keen criticism of the old education, an examination of past progress, and, lastly, a brief summing up of new methods and of some of their forms of application.

Mr. Spencer's fire and sword shine most brightly in criticism. The positive statements lack definiteness, and reveal the author's lack of professional experience; he borrows the greater part of his ideas from Pestalozzi, and from further back than Pestalozzi, from Rousseau.

Historians of education are indebted to Mr. Spencer for certain general considerations as inter-

[1] Mr. Spencer has relegated the discussion of physical education to the end of his book. By good right it would have been more logical to have begun with it.

esting as they are sound. He fully established the truth that there are close relationships between the social, political, religious, and even economic conditions which distinguish a country at any period, and the systems of education which are then preferred in it. When men received their creed and its interpretations from an infallible authority deigning no explanations, it was natural that the teaching of children should be purely dogmatic. While "believe and ask no questions" was the maxim of the church, it was fitly the maxim of the school. Along with political despotism, stern in its inexorable commands, ruling by force of terror, visiting trifling crimes with death, and implacable in its vengeance on the disloyal, there necessarily grew up an academic discipline similarly harsh, — a discipline of multiplied injunctions and blows for every breach of them, a discipline of unlimited autocracy upheld by rods and ferules and the black hole. But these things have changed, in proportion as the spirit of liberty has entered into the church and into politics. We are no longer living in an age when, "acting on the principle of the greatest amount of suffering," men imagined that the more pleasures they refused the more virtuous they were; and when, in consequence, in a mood of austere asceticism, they deemed essential an

education that opposed the wishes of children and nipped in the bud their spontaneous activity as much as possible. We are now far from thinking that natural inclinations are diabolical temptations. Lastly, even economic ideas are connected in some way or other with the ruling educational theories. The school prejudice that the mind of the child can be formed to order at will, under a control the details of which are minutely regulated, corresponded to a commercial system of protection and prohibition. But with free trade, causing barriers set up against international relationships to fall, the chains which bound the liberty of the child and separated the pupil from the master have also been broken.

But more than all the wrong notions which, through being generally accepted, have worked mischief in education, there is, according to Mr. Spencer, a tendency as ancient as the world itself, which explains the long, slow routine that education has pursued,—the tendency to prefer the pleasant to the useful. A taste for ornament preceded the adoption of dress; of this Mr. Spencer sought proofs amongst savage races. The Indian woman of the Orinoco, who does not hesitate to go out of her hut naked, would not consent to appear in public without first painting herself. The Red Indian bears the sharpest pain joyfully in order to be beautifully

tattooed. . . . This taste for ornament passed from bodily decoration to mental acquisitions. Men have desired to shine, before making themselves comfortable. Talents that give pleasure have been preferred to those that are of use. Studies that win social success, establish worldly power, or form brilliant wits have been placed above solid and practical knowledge. We have, so to speak, fashioned ornamental rather than useful members of society. We have aspired rather to "appear" than to "be." Hence a kind of superficial education, which has omitted essential things whilst insisting on futilities, on empty and superficial knowledge.

Darwin accused English schools in the middle of the last century of narrowing the curriculum too much, of paying too much attention to instruction in classics, of exercising only the memory, and, lastly, that the effect of this purely formal instruction was to cramp the mind, because it neglected studies which, by appealing to observation and reason, arouse curiosity and interest. Mr. Spencer sounds the same alarms, expressing them yet more fully. He does not approve of any of the traditional ways or practices customary in a classical curriculum. We have already heard what he thought of history: a mass of "gossip" about dead people, containing nothing of greater interest than "tittle-tattle"

about living people. Geography he called a "dead thing." He will not hear of learning lessons by heart, and Rousseau would have rejoiced at the attack which his successor makes against books. "We forget," says Mr. Spencer, "that the function of books is merely 'supplementary'; that they are only an indirect means of gaining knowledge, and that we should resort to them only when direct means fail us. To read," said he again, "is to see by proxy;" it is better to see for oneself, and to observe life and nature with one's own eyes than through the eyes and ideas of other people. A pupil will open a book only "when his acquaintance with the objects and processes of the household and the fields is becoming tolerably exhaustive. . . ."

It is, however, when he opposes the study of languages that Mr. Spencer makes use of the sharpest weapons of his caustic criticism. Note that he is no more favourable to living than to dead languages. He sees in the continuance of Latin and Greek merely an effect of custom and irreflective imitation. Men dress their children's minds as they do their bodies, in the prevailing fashion. As the Orinoco Indian — an authority frequently cited by Mr. Spencer — puts on paint before leaving his hut, not with a view to any direct benefit, but because he would be ashamed to appear without it,

so a boy's drilling in Latin and Greek is insisted upon, not because of their intrinsic value, but that he may not be disgraced by being found ignorant of them; that he may have the education of a gentleman. In this bantering vein he adds, "We are guilty of something like a platitude when we say that throughout his after career, a boy, in nine cases out of ten, applies his Latin and Greek to no practical purpose; . . . if he occasionally vents a Latin quotation or alludes to a Greek myth, it is less to throw light on the topic in hand than for the sake of effect."

It is impossible to banish Latinism and Hellenism more summarily. Moreover, in the eyes of certain utilitarian positivists, the whole of literature is held of little value, and regarded with suspicion. Condorcet, their forerunner, wrote: "Were a hundred men of mediocre ability to write verse and cultivate literature and languages, nothing would be gained; but if twenty were to occupy themselves in observing and experimenting, their work would be actually useful." It is in the same way that Mr. Spencer is vexed that we neglect science and waste time in reading poetry and romances. He admits literature only for the sake of the pleasure it may afford. It is a mere amusement, and possibly he would sacrifice it altogether, were he not arrested by the pleasant idea that, without literary studies,

conversation, lacking nourishment, would grow poor and feeble, and writers would not know where to look for metaphors.

This is not the place to reply to these unfair exaggerations. Let us only say that Mr. Spencer did not convince his own countrymen, seeing that J. S. Mill gave utterance a few years afterwards to the admirable defence of classical literature already mentioned. In America, Teachers' Meetings have ventured to assert that "Latin is the crown of secondary education." Mr. G. R. Carpenter, in his book on *The teaching of the Mother Tongue*, acknowledges that the cause for which he pleads — classic studies — is practically gained, since the number of students taking Latin is steadily increasing. The chief error in Mr. Spencer's statement — and this should be specially noted — lies in believing that there is only one kind of really useful knowledge. In the competition of the various studies of which he is the president, he is wrong in desiring to award a prize to only one. A prize is merited by more than one, and those authorities are mistaken also who ascribe to literature that exclusive kind of superiority granted by our author to science. It is a mistake analogous to thinking that there is only one form of secondary instruction. The fact is that there are several; and the future will demand

various courses of study and curricula which combine literature and science in varying proportions, for the same reason that social life in the future will grow in complexity, and professions and trades become more and more specialized.

We should have liked to see in *Education* a new plan, with exact detailed explanations, follow these sharp criticisms of the old curricula. It is no difficult matter to assert that science is the only firm basis for instruction; we want to be told also in what order the various sciences should be arranged and classed; how scientific studies should be adapted to the stages of child growth. . . . Mr. A. Bertrand, the translator of *Education*, and the most authentic disciple of its educational theory, has attempted to plan such a programme in his "Four Years' Lycée Course." I do not say that this course is satisfactory, but he deserves credit for the attempt. As to Mr. Spencer, we must be content with general statements. He has not formulated the directions for the class room which we desire; but he has at least endeavoured to define certain new methods which ought to control its organization.

We have at last emerged from the period of intellectual inertia, when the rule of tradition was undisputed. That was an age of "Unanimity in ignorance"; and while waiting until the happy

days arrive of "unanimity in wisdom," we are living through a period disturbed by discussions, of "disagreement in research." Already, however, although there can be as yet no question of establishing an exact science of pedagogy (this will be possible only when a rational psychology has been constructed), a certain number of new tendencies have happily checked the old routine. Three centuries after Montaigne said, "To know by heart is not to know at all," we begin to understand the saying. We are giving heed to Rousseau's dictum—quoted by Mr. Spencer as a common saying—that one of the secrets of education is "to know how to waste time." Abstractions are giving way to concrete intuitions, symbols to realities. It would appear that in England, as elsewhere, this movement in the direction of reform began in primary schools. New life was given to instruction that was almost exclusively oral by direct observation of nature in the training college for teachers of elementary schools at Battersea from the year 1850.

Back to nature is, in fact, the distinctive feature of all the new methods, and in this matter, whatever Mr. Spencer may imagine, the initiator was Rousseau. For the rest, what does it matter if the appeal is to nature or to science? Are they not much the same? What is science? Is it not nature

transmuted into "thought," the universe transformed into knowledge, nature examined, comprehended, and then reflected as a whole in the mirror of the mind?

It is by following the natural laws prescribed by nature for the development of intelligence that we may hope to discover the principles of intellectual education, education being only "the objective correlative of the subjective development of human nature." Hence Mr. Spencer has attempted to lay down what he calls — and this is a favourite expression of his — the "principles" of mental pedagogy. He distinguishes as many as seven principles, but in reality some of them do double duty, for his wealth of analysis is somewhat wasted. In this way he affirms that the teacher, like the mind in moving naturally, should pass in a course of instruction (1) from the simple to the complex; (2) from the indefinite to the definite; (3) from the concrete to the abstract; (4) from the empirical to the rational. Is not this, to express one and the same idea in four different ways, a varied interpretation of the great law of evolution, — the law of movement from the homogeneous to the heterogeneous? In reality all this amounts to saying what no one calls in question, — Rousseau had previously expressed it in glowing language, — that simple, con-

crete knowledge derived through sense experience ought to take precedence before abstract and rational knowledge. Into the interpretation of this truth — first proclaimed by Rousseau and applied by Pestalozzi — Mr. Spencer lets slip some mistakes. For example, can we admit that it is impossible, and indeed undesirable, to cause exact ideas to enter the child's mind under the pretext that the mind proceeds from the indefinite to the definite? On the contrary, it is never too early to build up clear and exact notions; and this is also not impossible provided care is taken to keep the attention of the child fixed sufficiently long on subjects within the range of his understanding.

Another principle also heard of before,—Mr. Spencer makes an acknowledgment to Auguste Comte for having first enunciated it, — is that the education of the child should be in harmony with the historical development of the race, and should follow the progress of civilization; in other words, the development of the individual, from the point of view of the acquisition of knowledge, should be the same as the development of the race. Mr. Spencer gives as reason for this that, by virtue of the principle of heredity, there must be in the child a disposition to reproduce in brief the history of the race. We doubt whether much practical benefit is to be

awaited from this theory, a doctrine more ambitious than sound. Moreover, Mr. Spencer exaggerates the influence of heredity; he states, for instance, that a child of French extraction will remain French, although educated abroad, despite the evidence proving the contrary, that the influence of environment rapidly stifles the hereditary tendencies of nationalities and races.

His two last principles, inferences from those preceding, are important in a different way: the principle declaring that spontaneous mental activity should be encouraged as far as is possible, and, lastly, that the fitness of a study — and also its utility — can be measured by its attractiveness to the child.

No objection can be raised when, like Rousseau and Horace Mann, Mr. Spencer requires the load of formal lessons to be eased. It is a fallacy of the age, he said, to educate entirely through "lessons." We must instruct as little, and make the child "discover" as much, as possible. He must be his own instructor, not an inert recipient on whom knowledge is poured; an active seeker, who discovers by observation. These counsels are excellent, provided we do not place too great dependence on them. We must not expect a child to "invent geometry," as Mr. Spencer suggests and

Pestalozzi also desired. Pascals are rare in the world, and few could follow in the steps of Euclid.

The law bearing on interesting instruction is the most original, but it must be accepted with reserve. It is not a question of imitating teachers who are as kindly as they are unwise; and who, in trying to make all instruction easy and amusing, render it childish. Nor is it by indirect instruction, after the manner of Fénelon, by fiction and fable, in which the hard features of didactic instruction are concealed under pleasant artifices; the interest must be sought in the studies themselves; it must be intrinsic and stimulating to the child's nature. The child himself will find it, provided it is adapted to his age and powers. Do you wish to know whether your plan of instruction is good? Examine the amount of combined curiosity and pleasure that it excites in the child. The awakened curiosity and inclination bear witness that the mind of the child is ripe for the subject. On the other hand, repugnance shown for a science proves either that it has been given to the child too soon, or by an objectionable method. Let it not be forgotten that the pleasure accompanying an act stimulates its performance; that is why it is good to make instruction attractive. It is no more true in school than in life that the more one suffers the better one is for it. Intellectual

activity is only truly useful and fertile when it is agreeable. Mr. Spencer, however, readily acknowledges that certain of our faculties do not always proceed to carry out necessary activities spontaneously and of their own accord. It is not always correct that the child's instinct is surer than the reason of the adult. Reason is sometimes compelled to impose tasks on a child which its idle tendencies dislike. Therefore, if a child is to study all that it ought to learn, painful efforts must be demanded. Interest does not suffice as sole intellectual inducement. Study, like life, is made up of pleasure and pain commingled. We may add that it might be a dangerous test for the scheme of education dreamt of by Mr. Spencer to trust its application to the verdict of the inclinations of children. Is it not possible that, if they were allowed free choice, the greater number would be led away by the delights of history and literature stories, and prefer these to the severer charms of scientific information?

It is true that our author expects to remarkably reduce the hardness of science by presenting it under the pleasing and familiar aspect of object lessons. Object lessons,—that is evidently the method most directly associated with a system which demands that things be put before words, the acquisition of a language before the study of its grammar, observation before reasoning, and also

pleasure before effort. This way of instruction is wonderfully fitted to the nature of children, who observe everything so inquisitively. "Watch the elder children coming into the room exclaiming: 'Mamma, see what a curious thing!' 'Mamma, look at this!' 'Mamma, look at that!' a habit they would continue did not the silly mamma tell them not to tease her." Mr. Spencer says this habit should be preserved by teachers. He urges that the object-lesson method be extended over a wider range of subjects, and the use of it continued longer; that it is not a system arranged solely to prepare for sense training, that it is valuable even as introduction to abstract science. He believes, for instance, that geometry could be taught without definitions simply by causing objects to be measured. Rousseau ventured similar innovations.

On another point the descent of ideas from Rousseau to Spencer is not less evident. Émile learnt to draw; so does Mr. Spencer's pupil. Drawing becomes an essential element in education, the rival and even the equal of writing, and in a sense more useful. Children have a natural taste for it, either for the drawing itself or else for colouring. Mr. Spencer thinks the mode of representing objects preferred by the young artist of five or six years is by means of colour, that he only accepts the pencil when he cannot get a brush and box of colours.

A box of colours and a brush are the instruments preferred. . . . Mr. James Sully, in his *Studies of Children*, contradicts Mr. Spencer on this point, and asserts that, according to his personal observations, drawing precedes colouring.

To these reflections on drawing and object lessons are added some remarks on the teaching of geometry, on the value of physical science, on the part played by intuition and by experience in instruction in the elements of mathematics, — even the multiplication table should be acquired experimentally, — then the chapter on intellectual education is brought all too quickly to an end.

Despite its brevity it is permeated with a profound feeling for the importance of early education, the only period that the author wished to examine, and which he, like Pestalozzi, would begin from the cradle. "Whoever has watched with any discernment the wide-eyed gaze of the infant at surrounding objects, knows very well that education *does* begin thus early, whether we intend it or not; and that these fingerings and suckings of everything it can lay hold of, these open-mouthed listenings to every sound, are first steps in the series which ends in the discovery of unseen planets, the invention of calculating engines, the production of great paintings, or the composition of symphonies and operas."

IV

THERE is no need to call the attention of English people to the delights of physical exercises; if anything, they take too much interest in outdoor sports. M. Boutmy mentions in a recent book, called *Essai d'une psychologie politique du peuple Anglais*, a small thing which signifies much: "In the big daily papers of England sometimes as much as 45 columns are given up to summarizing sports, and only 17 reserved for all other matters." The instinct for activity and movement lies very deep in the Anglo-Saxon race. To-day Great Britain and the United States are the classic lands of open-air games; in France we only follow them afar off. A school, the extraordinary name of which is given by Mr. Spencer as "Muscular Christians," could not possibly have arisen amongst us. No Frenchman would have published such novels as those of the Rev. Charles Kingsley, novels in which virtuous and devout heroes unite the strength of biceps of an athlete and the muscles of a wrestler at fairs with the fervent piety of a mystic. This violent education of the body, a tradition belonging to the English

race, develops energy of character; but its first effect, naturally, is that of developing physical qualities. It is with good reason that M. Maurice de Fleury, a Frenchman, attributes partly to this the difference in build and manner of the two races: the Englishman tends to become tall and graceful; the Frenchman, short, thickset, and effeminate.

This physical education is not simply a matter of gymnastics and of the games of adolescence. It, too, begins in the first years of life, and lasts throughout the whole of it. It presupposes suitable diet, clothing, and a whole system of hygienic regulations. Hence, as regards this matter, the practice usual in his own country was sufficiently satisfactory to Mr. Spencer.

He contrasts with his usual force the care given to bringing up animals with the indifference and neglect manifested towards the art of educating children. To fatten prize pigs for agricultural shows, to train a horse to win the Derby, to feed the finest bulls, — these are important matters, most absorbing occupations. At the dinner table of a country squire, when the ladies have left the room, at the village inn on market days or, indeed, after church service, these are prominent topics of conversation, subjects about which everybody tries to acquire information, or at least to exhibit an interest.

The kinds of fodder, the nutritive qualities of hay and chopped straw, different manures, — all this is discussed and studied energetically. But who dreams, I would ask, of making inquiries about the different foods suitable for children, the period it is prudent to allow between meals and study hours? A country gentleman visits his stables, and cow-houses regularly; when does he find time to go up to the nurseries, inspect how they are ventilated, and the food which is given to his children?

Locke and Rousseau had already set a good example of minute attention to details in regard to hygiene during infancy. But what in their case was merely a kind of vague intuition, of instinctive divination, developed under Mr. Spencer into very exact rules, founded on careful scientific investigation. He says that the business of looking after these matters should no longer be left to "mammas who have been taught little, — languages, music, and accomplishments, — aided by nurses full of antiquated prejudices." He desires that all parents learn enough physiology to be able to watch over the health of their growing children. "It is time that the benefits which our sheep and oxen are deriving from the investigations of the laboratory should be participated in by our children."

As Emerson, the American whom Mr. Spencer

quotes, has said, "The first requisite for success in life is to be a good animal." To become a good animal, you must accept as guide and counsellor Nature, and science, its interpreter. "If you will let Nature follow its own path, merely furnishing it with the materials needed for bodily growth as well as for growth of the mind, it will know how to insure harmonious development in the human being unaided."

To Mr. Spencer the question of nourishment is of most importance. He returns to it several times, and even discusses it in his book on *Principles of Morality*. In his wide and full conception of human duties, all actions which affect the well-being of a man, directly or indirectly, spring from one source, morality. It is wrong, *a physical sin*, to eat too little, to inflict privations on oneself, to prolong labour to the point of exhaustion, quite as much as to be idle or intemperate. It is morally virtuous to attend to cleanliness, the care of one's health, to an alternation of work and rest, to sleep long enough, and to eat substantial and healthy meals, just as much as it is to practise sincerity, honesty, generosity, and all the duties most sanctioned in the ancient moral code.

In food, two things must be considered: quantity and quality. In regard to the former, human beings in reaction against one kind of excess pass, according

to the law of opposites, to its contrary, from despotism to license and anarchy, from extreme piety to scepticism. A corresponding contrast may be noted in our dining customs. Our parents ate and drank freely; nowadays it is temperance that is fashionable. Formerly, especially in the rural districts, children were allowed to gorge themselves; the tendency is rather, at present, to give them too little nourishment. Now, eating too much or too little are both kinds of excess, of evil, and the latter is the worse.

Food should above all be abundant. Let a child eat until he is satisfied. Appetite is a sure guide in the case of babies, and also in the case of adults who lead regular lives; sick persons and even animals may follow it without injury. How can parents who know nothing whatever about the laws of nutrition be so foolish as to claim to decide for Nature and to make arbitrary rules for the needs of their child's stomach? Just as in the state there are "too many laws," — that is the title of one of Mr. Spencer's *Political Essays*, — so in the family there are too many restrictions and forbidden things.

But, some one will say, there is proof that it is dangerous to supply all the demands of a child's appetite, for children indulge in such gluttonous feasts sometimes that they make themselves ill.

In the first place, are such excesses as frequent as people are apt to say? The child does not gormandise by nature; the habit is acquired. Mr. Spencer quotes from an English publication, *The Encyclopædia of Practical Medicine,* a statement which might have been written by Rousseau: "To eat too much is a vice of adults rather than of children: the latter are rarely gluttonous or epicurean, and they become so only by the fault of their parents." Moreover, as Mr. Spencer ingeniously explains, the feasting of a child indulging to repletion in fruits and sweetmeats is merely Nature's way of taking a sensual revenge against a regimen that is too ascetic. When a child is fed too sparingly, and fed on insipid food, — bread and milk, butter and tea, — when the things he likes are forbidden him, is it astonishing that, having been denied a diet which supplies agreeable sensations, the day that he is let loose in a confectioner's shop he is tempted beyond measure, and he reacts too violently against the privations of his long Lent by breaking out into an impromptu carnival?

Mr. Spencer is not the man to encourage fasting and abstinence. He believes in the superiority of men and races who are well nourished, forgetting that there are some weaklings who have also made their way in the world. Feuerbach said, "A man

is what he eats." Mr. Spencer almost repeats this: "The well-fed races have been the energetic and dominant races." He calls attention to the fact that English sailors, men fed on meat, are stronger than the sailors of other nations who are fed on starch foods. M. Maurice de Fleury likewise asserts that the French diet makes more fat than muscle, and hence tends to form a race of office-holders! . . . To modify every day the menus of the meals served to pupils of the *lycées*, increasing considerably the proportion of meat, would this suffice to transform character and inspire us rapidly with a taste for adventure and for bold enterprises? To do this would certainly be easier than to seek laboriously to reform our curricula and methods of teaching. . . .

Sound and sufficient feeding is most necessary for the child. In the first place, the child by constant movement uses up its vital tissues, and expends heat much more rapidly than the adult. Besides this, it is developing every day; bit by bit it is building up its bodily structure; whereas the adult, having reached the limit of his growth, has only to preserve what he has constructed. The child, then, must by excess of nutrition make up for a greater expenditure of force, and also supply material for growth.

Mr. Spencer would not forbid the child meat,

"the food which is the best restorer"; he forbids meat only to very little children, those without either teeth or the muscular strength necessary for chewing. After three years of age flesh food is good, and the contrary opinion has spread amongst rich people as a fashion, and amongst the poor from motives of economy. For the rest there can be no absolute rule in such a matter; children may become very strong on a diet that is almost exclusively vegetable, as is well shown by our little French peasants. Mr. Spencer himself did not flourish well the six months during which he turned vegetarian. He declares that at the end of this experiment he experienced much falling off in physical and moral strength. As a general rule meat is to be preferred to bread, because it is more nourishing; and, for the same reason, bread is to be preferred to potatoes. As to the quantity of meat, that will vary according to circumstances, nutrition being modified by climate, by the exercise taken, with the hygrometric state of the air, and the electricity contained in the atmosphere. "In English colleges," says M. de Fleury, "300 grams of roast meat are allowed to each child daily"; that would be too much for French children.

Mr. Spencer's notion that the taste for sweetmeats should not be repressed is original. Sugar,

a great heat producer, plays an important part in the development of the body; hence, in the craving for sugar manifested by children, we must recognize a legitimate call of nature claiming what it needs. Many physicians hold the contrary opinion, and proscribe sweetmeats, "which spoil the teeth." Mr. Spencer is also in contradiction with most experts in hygiene; they forbid usually all unripe things, whereas he recommends that we humour the taste of children for fruit, even for half-ripe fruit. Green gooseberries, the sourest apples, and all acid vegetables are excellent tonics.

Yet another problem is that of variety of nourishment. It is foolish to force children to eat always the same things, like English soldiers who are condemned in barracks to twenty years of boiled beef. It is forgotten that monotony breeds disgust, and new dishes, on the contrary, produce an agreeable sensation which arouses an appetite. Moreover, there is no single food which contains all the nutritive elements necessary for health. One feels a shadow of regret that Mr. Spencer did not understand that the same is true of mental food, and that neither science nor literature alone can furnish all that is required for a completely perfect intellectual education.

Let us pass to another subject, — clothing. Mr.

Spencer continues to attack asceticism, that is to say, customs which are too austere, which are not adjusted to the nature or feelings of the child. Feelings of warmth and cold should determine the choice of its costume. A kind of "physical conscience" warns us of the danger to which we are exposed by injurious sensations. People who transgress its laws no doubt scar its edge, but in childhood it is instinctive and infallible, and it demands warm clothing in winter and cool clothing in summer. It is folly to seek to harden the body against sensations that presage a freezing temperature. "Not a few children are hardened out of the world." Cold arrests the growth of men as well as plant growth. The human race in cold climates — the Esquimaux and Laplanders — are small and stunted, like the sheep on the Scotch mountains and the ponies of the Shetland Isles. The younger the child the more necessary is warmth. We imagined that we were imitating the English and courting their admiration in letting infants go about in all weathers with bare legs, bare arms, and necks. Let us not deceive ourselves; Mr. Spencer, who strongly condemns these half-clothed fashions, tells us that it is the French who are the guilty people, and he blames them accordingly. It was already very regrettable, he says, that English ladies were led by the

capricious tastes of Parisians and were weak enough to follow in their dress all the follies of fashions invented on the Continent. But it is monstrous that under the same inspiration they now dress their little ones like "mountebanks." It is good to be set right; we must no longer lay the responsibility for this folly on England, and, as most French doctors disapprove of this fashion of light clothing, I think it is strongly compromised: "I have consulted a great number of hygienists," writes M. de Fleury; "almost all are opposed to the custom of bare legs: they impute to it colds and bronchitis, and they accuse it of injuring the nutrition of the body by causing excessive activity." Mr. Spencer is not the only chilly scientist who would have children well covered up. A certain Dr. Combe,[1] whom he often quotes, would have all clothing thick enough to protect the body "against every chance sensation of cold, however slight"; Mr. Spencer says, more wisely, "against every abiding sensation." He finishes by recommending coarse woollen stuff, cloth strong enough to endure wear and tear, preferably of a dull gray colour, such as will not suffer from use and exposure in childish sports.

The education of the child is defective, then, in

[1] Dr. Combe, *A Treatise of the Physiological and Moral Management of Infancy*, London, 1854.

the matter of food and clothing; it is at present also defective in physical exercise, at any rate the education of girls. Even in England, it would seem, the weaker sex, or, as Mr. Spencer expresses it, "the gentler sex," are forbidden by public prejudice the practice of those bodily exercises which this sex, nevertheless, particularly needs, either as remedy for natural delicacy, or to fit them to bear the burdens of maternity without inconvenience. "Within view," Mr. Spencer says, "we have an establishment for young ladies. . . . During five months we have not once had our attention drawn to the premises by a shout or a laugh. Occasionally girls may be observed sauntering along the paths with their lesson books in their hands or else walking arm in arm. Once, indeed, we saw one chase another round the garden; but with this exception, nothing like vigorous exercise has been visible. . . . We have a vague suspicion that rude health and abundant vigour are considered somewhat plebeian." Mr. Spencer made further inquiries and he became convinced that noisy play is discredited in institutions for young ladies, whereas it is wildly indulged in by the boys. He protests vehemently against these contradictions. If active sports do not hinder a boy from becoming a true gentleman, why should similar activity prevent a young girl from growing

into an accomplished woman? However violent may be the games in the playground or playing field, why imagine that we shall ever see young ladies, when their school days are ended, amusing themselves by turning somersaults in the streets, or by playing marbles in the drawing-room? A woman, like a man, should be strong and healthy; she should not blush at a good appetite, although that may be, perhaps, vulgar, and she should take her share in physical exercises; then we should see no more of those pale, thin, angular, flat-chested persons who, according to Mr. Spencer, filled the drawing-rooms of London forty years ago.

For the rest, what should these exercises consist of? In the first place, of free games. Gymnastics do not offer the same advantages; formal movements exercise certain parts of the body only; as regards quantity of muscular action they are inferior to games, and also in regard to quality. They resemble scholastic exercises too much; and in consequence they are not accompanied by that valuable stimulant, "happiness, the most powerful of all tonics: delight in the activity itself." Gymnastics, doubtless, are better than nothing, but they cannot replace free activities. Here, again, Nature is our master; and, as usual, Mr. Spencer invokes the occult power which rules over Nature

and places physical activity under the protection of the wisdom attending "divine ordinations."

Physical education has been necessary in every age. It is yet more important to-day, in an epoch when the conditions of life rarely grant us rest, and in a society condemned to intense, and often excessive, brain activity. On the one hand, the struggle for existence becomes every day more fierce and feverish. Formerly, war claimed thousands of victims in a few hours; to-day, the battles of industry, by overstraining human activity, prepare, more slowly but as surely, hecatombs of weak and exhausted men. Also, whilst the strain of modern life becomes every day greater, we find that we have less strength to encounter it. In a race that is ageing, resisting power grows feeble. We are less healthy than our fathers; and our children, unless we guard against it, will be still weaker than we. We are like bankers who, just at the time when they will have to make the heaviest payments, find that funds are very low in their coffers. Hence physical education appears to be the vital question, one which must be solved at any cost, if we are to arrest degeneracy in the race. It does not concern ourselves and the present time only; it concerns our children and the future. In our efforts to combat the evil we must not busy ourselves only with strengthening the

constitution through exercise and attention to hygienic laws. We must, as far as is possible, get rid of causes which tend to enfeeblement, in one word, of overstrain, — overstrain of body and of mind both.

No one has pointed out the fatal consequences of this twofold overstrain more emphatically than Mr. Spencer. During his visit to America, in 1882, when making a speech at a banquet in New York, he found the best means of thanking the Americans for their hospitality was to warn them, with courageous frankness, of defects in their hustling civilization and of their exhausting habits. He entreated them to neglect for a while the "Gospel of Labour," and to cultivate the "Gospel of Repose." He said to them, "I have been struck during my visit by the number of tired faces, on which I could read inscribed in deep wrinkles traces of heavy burdens borne for long. . . . The hair turns white in your country ten years before it does in ours." An evolutionist, one who has accepted the doctrine of heredity in place of that of original sin, is naturally more alarmed and dismayed than the common philosopher can be by the thought of the future which the strain of modern activity is preparing for humanity. The first duty of a man is the care of the body, this not only out of regard for his own well-being, but also

out of consideration for his descendants. The strength of our constitution is a possession granted us for temporary use only, which we should seek to transmit, if not increased at least intact, to our children. To bequeath to them millions of dollars in return for ruined health, that will in no way balance the wrong that we shall have done them, if we bequeath also the defects and weaknesses of an exhausted body.

In his attack on overstrain Mr. Spencer has specially in view the abuse of school tasks. He urges that school life should not begin too early, on the pretext that, since rivalry for standing room in the world is growing keener, we must enter it earlier. He cites with approval a physiologist friend of his — a disciple of Rousseau, certainly — who said to him, "My son shall have no teaching until he is eight years old. . . ." He does not desire erudition and scholarship, studies that can be stored in the brain like fat in a swollen body, but which do not tend towards mental vigour. He even goes so far as to say, he, the apostle of scientific education, that success in life depends less on knowledge than on energy and strength of will; and that in any case we should hold of most importance and acquire first practical knowledge, — the knowledge which forms, as it were, "mental muscle."

Mr. Spencer fears the consequences of overpressure (culture *forcée*), especially for women; intensive study carried to an excess may, in their case, cause irreparable injury. The higher instruction given to young English girls in certain English institutions — he mentions Girton and Newham Colleges — is incompatible with good health, — health that expresses itself in good humour, gayety, and overflowing life. Mr. Spencer gives us to understand by suggestive words that "conjugal unhappiness" may arise from this early overstrain. For the sake of her own happiness, as well as that of her future home and family, the strength of a young girl should be guarded, and brain fatigue leading to nerve exhaustion, prohibited. Here, again, Mr. Spencer shows himself a disciple of Rousseau; he is inclined to wish that women would be satisfied with their natural attractions. Men, he says, do not want erudition in women. What they want to find in a life companion is physical beauty, good nature, and sound sense." — "What man," he says at another time, "ever fell in love with a woman because she knew Italian or German? But rosy cheeks and laughing eyes are great attractions."

It is true that physical overstrain is not less harmful than intellectual overstrain, and Mr. Spencer is no fanatic in regard to athletic games. Can

one credit it? He condemns "football." Football has, however, survived his criticisms, violent though they were, since he attributed to it a "brutalizing influence." He would permit only those games which demand a moderate amount of physical exertion. Brutal force in no way attracts his admiration; it is well known that he was a passionate opponent of the military spirit and the savage practices that it sometimes engenders. He speaks hard words against Germany, the land where students as well as officers uphold duelling, and "where all the males are trained to be soldiers." He reflects upon France unjustly when he says that all the energy of the nation is concentrated in its teeth and in its claws. Had he foreseen in 1862 the events of 1900–1901, he might have reserved some of these bitter reproaches for his own country. . . . But I am at fault; he did do that. He did not forget the outrages that followed the conquests of the English colonies; he mentions, for instance, amongst others, the atrocities committed in India on the day when, having shot a whole band of Sepoys, Englishmen fired into the human pile in order to make a sure end of the unhappy sufferers who were still breathing. The present war could supply other illustrations for similar criticisms. . . .

However intent, then, Mr. Spencer may be on

the acquisition of physical virtues, strength of body and courage, he does not exalt them above measure. He thinks with reason that they will always be necessary, and specially necessary so long as one of the conditions of national life is militarism. But he puts them in their proper place as inferior qualities, which should be subservient and subordinate to moral virtues and to the more elevated human attributes. It is not a consequence of Mr. Spencer's teaching that Lord Rosebery, in a recent discourse, charged English education with sacrificing the development of the mind to physical exercises. A too ardent pursuit of muscular force may disturb the right balance of the faculties. Just as the abuse of brain work exhausts the physical constitution generally, so excessive bodily toil weakens mental power. It is for this reason that mental inertia follows on too great physical exertion, and that a too rapid growth on the part of a child is accompanied by a kind of intellectual prostration. The ideal is to maintain a wise equilibrium between two opposing activities. Let us remember that "Nature is a strict accountant; and if you demand of her in one direction more than she is prepared to lay out, she balances the account by making a deduction elsewhere."

V

If for the reasons mentioned physical education becomes more than ever an absolute necessity when a race is old and enfeebled, for reasons of a different kind moral education is still yet more imperative; and at first Mr. Spencer appears to be fully aware of this. Disturbed by the decline of religious belief, anxious about the enfeeblement of the human conscience resulting from the diminution of faith in the supernatural, — and we cannot certainly depend on Mr. Spencer's writings to check this movement, — he affirms the need of letting the sciences now developing take the place of the faith which is diminishing. Morality in its turn should become a science. For the supernatural moral code, the authority of which is disappearing, dead, or at least much weakened, we should make haste to substitute a natural moral code, which should borrow its strength and authority only from evidence supplied by its own demonstrations.

Only this can take the place of dogmas of sacred origin, the laws of which have governed believers for centuries. It would cause moral disaster, if science, having become master, did not suc-

ceed in gaining the command over the souls which are partly shaking off the bonds of a decaying religion.

Yet, by a contradiction astonishing in a mind so systematic as Mr. Spencer's, the same philosopher, who swears by science alone, gives a striking proof of his own fallacy and overthrows the hopes with which he had inspired us, for he puts aside his confidence in science when it asserts a claim to moralize mankind, and will not admit its qualifications. He does not admit that knowledge can have a beneficial effect on the conduct and habits of men. He scoffs pitilessly at what he calls modern fanaticism, the "fanaticism of instruction." He is amused by the moralists who appeal to the statistics of crime to show that ignorance and crime are correlative, are connected the one with the other in a cause and effect relationship. One might as well try to maintain (he says) that crime is caused by the neglect of frequent washing and dirty clothing, and that criminality is habitually accompanied by a dirty skin. What relation can there be between the art of naming the letters of the alphabet, or of tracing black signs on a sheet of white paper, and the power of acting rightly in life? Pure knowledge has no influence on the will. In a word, Mr. Spencer puts no faith in the curative and moralizing power of

science. He predicts that events will more and more prove vain the hopes which present-day enthusiasm places in the diffusion of intellectual light. It is true that he does not go so far as some friends of ignorance, and assert that instruction is injurious and corrupting; but he believes it to be powerless and sterile as a moral instrument. Faith in reading and class books is an idol of the period. It is noteworthy that the English positivist towards the end of his life reached, like Auguste Comte, the point of proclaiming the sovereignty of feeling and the powerlessness of reason, saying, in fitting terms, "It is not ideas which overturn the world and rule it, it is feeling."

Mr. Spencer affirms the practical inefficacy, not only of science generally, but also of direct moral instruction; this he considers fruitless. We think we can teach virtue by lessons! That is a delusion. The will does not obey a precept solely because the intelligence understands and believes it true. How many men are well instructed about duty, yet do not practise it? How many, even amongst the professors of ethics, do not in their lives conform to the excellent words that pass out of their lips? Mr. Spencer notes amongst his neighbours — and this would be an easy matter in any country — sad instances of intolerance and of deep

wrongs on the part of Christian writers who spend their lives in preaching charity. Let us, then, abandon the hope of giving moral education through the medium of instruction. Even ministers of religion do not flatter themselves that they succeed in this by religious preaching, conducted in churches and chapels where an impressive architecture, stained glass windows, pictures, and artistic decoration, hymns and music, with mysterious half lights, call the soul to meditation and retirement. How, then, can a lay institution expect to realize it by preaching morality in their bare and cold class rooms, where the children's eyes rest on geographical maps and lesson pictures of animals and objects ?

If Mr. Spencer had restricted himself to pointing out insufficiency in the effect of moral instruction, we should have agreed with him gladly. A simple notion formed in the mind is one thing, the will to act another. In order to form a moral sense, we must appeal to other forces besides the intellect, even when this is most highly stored with knowledge and most fully enlightened by science. But if instruction cannot do everything, it can do something. If it is not the sole inspirer of virtue, and certain of being obeyed, it is at least a counsellor, who at times makes itself heard. Instruction does not suffice to arouse the will into action, yet by enlighten-

ing the mind it prepares it for action. Has nothing been done in aid of morality when prejudices, superstition and error have been uprooted? Has no guarantee against vice been given when its harmful effects have been explained? We are, above all, surprised that a utilitarian moralist, one who estimates the value of human actions by their results, according to their effect upon individual and social happiness, refuses to recognize the value, for instance, of pointing out the disastrous physical consequences which follow immoral acts? That feeling prompts men to act, we admit; but an enlightened intelligence acts, we maintain, upon feeling. Is it not good for warmth of heart that the brain be first illuminated? A good moral habit is acquired only by a frequent repetition of the same action. That also we admit; but to induce a child to repeat an action, it is not a waste of time to point out its utility and beauty. You desire that a young man should be temperate. Surely it will be of service to give him an insight into the dreadful ravages produced by the plague of alcoholism. You desire that he should be generous, kindly, and patriotic. Have men, then, in all ages erred who, desiring to preach virtue, have appealed to great examples, to heroes and sages in order to arouse emulation?

The opposition that Mr. Spencer has felt obliged

to express against science as one of the means of moral progress is, then, as unfair as it is unexpected; and he might be asked why, if he were right, should he himself exert such great efforts for the purpose of organizing scientific moral laws into a system? If a knowledge of rational theory is of no assistance in modifying and ameliorating practice, why form the theory?

But to explain Mr. Spencer's attitude on the question of teaching ethics, it may be necessary to be acquainted with his view of moral habits in general. The ethics of the evolutionist resemble so little the ideas ordinarily held, that one could well believe it useless to include the subject as a part of school instruction; and hence the contradiction, the appearance of which has astonished us, may not, in fact, exist, being only a consequence of the author's system.

Mr. Spencer's ethics are "hedonistic," a morality based on "pleasure," or rather on "utility"; it is a morality governed by interest, but interest understood in its highest sense. It is a morality the end of which is not a blind, impulsive pursuit of pleasure, but an intelligent planning for happiness, the happiness of others as well as our own. Happiness is the final end of life. We must dismiss the cruel moralists who deny us all pleasures. We must

get rid of the idea of a diabolic Deity, whom ascetic men in former times thought to please when they lashed themselves and inflicted on themselves all sorts of privations and sacrifices. A desire for pleasure is at the bottom of all human efforts, even of those which issue in suffering voluntarily accepted. The new ideal should be happiness, the happiness of the world; and the evolution of all living things is moving insensibly towards this ideal.

Full and complete "individuation" is the final end of evolution, yet it would appear as if Mr. Spencer's moral problem is less that of the individual, and of persons as such, than of the race. Humanity is enmeshed in the system of the universe. Morality is a "cosmic problem." The moral law is an offshoot of the law of evolution which governs everything. A continual selection is lifting beings from a nebulous uniformity and confused starting-points up towards an individualism, varied and harmonious. Just as out of a primitive nebulous condition have arisen innumerable distinct stars, so from a disordered mass of savage tribes have emerged the individuals that compose civilized societies. If "individuation" is at its lowest point in the inorganic world, it is at its highest amongst men. And this "individuation" is nothing else than the power to maintain existence, and at the same time to widen

it and render it more complete. Complete, perfect, good, moral, — these are synonymous words. A day will arrive when the altruistic tendencies will be as strong in the human heart as now are the egoistic. Human morality grows gradually. For each individual it is less the result of personal will than the inherited result of the actions of one's ancestors. Progress is a necessity. When progress shall have reached its last stage, and, in consequence, the individual be completely adapted both to Nature and society, then "right conduct" will be the natural conduct. Actions executed by men now with repugnance, and only because they seem obligatory, will be accomplished pleasantly and without effort; and in the same way those that a man avoids at whatever cost from a feeling of duty, — from these he will refrain without any merit to himself, because they will be disagreeable to him. In the golden age at the end of the centuries man will become very much what animals now are, having fixed instincts; and he will accomplish mechanically what we call "the good." Thus Mr. Spencer leads humanity towards a sort of moral automatism, and there leaves it. It is a strange ideal, which, for the rest, need not disturb us much, for it is very far in the distance; on certain sides it resembles, however peculiar that may be, the eternal blessedness prom-

ised by the Church to those who have merited election by the Godhead.

But while awaiting the coming of this terrestrial paradise prepared for the children of evolution, what is the moral position of the men who live during the provisory stages which must be crossed by humanity? It is quite evident that the old moral notions have either disappeared or entirely changed their meaning. The word "duty" is nothing more than a word. It has no longer any moral sanction. The categorical imperative of Kant is a mere fiction.

In its place the new philosophy proposes a kind of natural and subjective necessity, arising out of our nature. Our moral sense is the product of the experiences of utility, which the race has organized and consolidated through successive generations. An authority superior to our own will, imposing laws, commands, prohibitions, disappears; there is only a natural constraining force, springing from hereditary habits, revealing itself in what Mr. Spencer calls "moral intuitions," a kind of moral sense. Man ascends little by little from egoism to altruism. Generous feelings become part of his physical organism. For the rest, they are only — as Rousseau suggested — personal sentiments aroused and transformed by sympathy. Thus the feeling of justice is merely a love of personal liberty, somehow widened

and generalized by a sympathetic reflection on attacks made against the liberty of other people.

Briefly stated, to live morally is, according to the ancient doctrine of the Stoics and Epicureans, "to live in harmony with Nature." If this is so, we can understand that Mr. Spencer need not concern himself about instruction in morality, since, on the one hand, it is not necessary to do so, and, on the other, Nature in becoming ever more and more perfect, is increasingly sufficient in itself.

Nevertheless, for it to be entirely sufficient in itself, it would be necessary to proclaim, as Rousseau did proclaim, that all a child's instincts are good and innocent; and this Mr. Spencer does not do. The doctrine of absolute optimism, called in England "Lord Palmerston's dogma," professed also by the poet Shelley who said, "Man is good, society bad, and would mankind give up their old institutions and prejudices, all the evils of the world would at once disappear,"—this dogma our philosopher in no way accepts, nor could he accept it without denying the doctrine of evolution and of a progressive perfection of humanity. Sometimes he appears entirely of the opposite opinion, and ready to subscribe to the doctrine of natural perversity. The picture he draws of a child's character is not at all flattering; it reminds us of the wretched list

of sins ascribed to children by Bruyère: "As a child's features resemble for a time those of the savage, so, too, do his instincts; hence the tendencies to cruelty, to thieving, and lying so general amongst children." In this picture, limned in black, Mr. Spencer excludes even the delight and charm that lie in the rosy, smiling countenance of a tiny baby. He sees in it only a repulsive, ill-formed creature, the face of which recalls in every feature that of primitive man: a flat nose, forward opening nostrils, large lips, etc. In morals the child is just as imperfect. "He is a prey to bad impulses. The barbaric race from which he is descended relives in him." What an admission for an evolutionist, since, instead of the progress he had proclaimed, and which time ought already to have established, he finds in the children of today a survival of the savagery of the first ages! From this affirmation of the sad effects of heredity should we not be more convinced than ever of the necessity of education and, in particular, of moral education?

It is true that Mr. Spencer does not hold to his first judgment on the nature of children, which was entirely condemnatory. His final conclusion is that their feelings are neither entirely good nor entirely bad. Estimating both the for and against, he practically says, "I have not a good enough

opinion of Nature to think it capable of going straight without watching, nor one bad enough to say with the pessimists that the heart of man is deceitful above all things and desperately wicked." But this conclusion, however softened, still leaves in some degree the contradiction which we have noted. For if any human tendencies are bad and depraved, must we not use some kind of instruction with a view of forming feelings and a will which will oppose and correct these perverse instincts? If, perchance, science proves powerless to accomplish this task, what is there left but to appeal anew to religious instruction?

But, admitting what is not the fact, that instruction can do nothing to develop moral strength, how can we forget that education comprises other things than arousing ideas and feelings which will incline us to do what is right; that it ought to decide exactly the deeds which are in harmony with morality, in whatever way defined? Moral teaching gives undeniable proof of its value at this juncture. And we may add that it is specially the duty of utilitarians, those who weaken or suppress the old ideas of duty and obligation, and have need of a moral code in a different way from the old school, to explain how we shall distinguish what is useful from what is not useful, good from evil, as they under-

stand it. In fact, in traditional morality it was possible to maintain that reflection and reason were almost useless. Then a law, sovereign and indisputable, distinguishing good from evil in themselves, addressed its commands to docile consciences. An absolute duty was imposed, and there remained only to obey, without discussion. How much more necessary is the aid of science in a morality based on interest! How much confusion may arise between vague and definite interests; what a delicate matter to discern one's duty, when the said duty consists in finding out the actions which are in harmony with utility! It is only from an exact knowledge of the laws of life and social conditions that we can deduce the modes of conduct which, in the nature of things, tend to promote individual and social happiness. As J. S. Mill forcibly said, "The salvation of utilitarianism will be education."—It is, in fact, education which alone can prevent a race governed by interest from going to wreck and ruin through selfishness and immorality.

But Mr. Spencer does not appear to have been conscious of the very great difficulties involved in utilitarian morality. Moral education, as presented by him, is a brief topic; it is included almost in one chapter, that on discipline. Moreover, discipline

is of one kind only, — repressive, — a discipline of punishments.

Here, again, Nature and utility are the guides of the author of *Education*. His system of discipline, — the discipline of natural reactions, — what might be called a discipline of consequences or of effects, consists, in fact, in putting a child face to face with Nature, and letting it find its punishment in a diminution of its comfort. In reality, it is Rousseau's theory amplified, systematized, and extended to cover the whole of life. A child falls; the pain caused by the fall warns him to be careful in his movements. If he should burn his hand in the flame of a candle, or on the hot bar of a grate, he will have learnt to beware of fire. It is this natural relationship, one which unites certain consequences with every action, that we must use to direct the conduct of a child. It is easy to discover defects and fallacies in a discipline of this nature.

A little girl, one of the "tiresome little creatures" who puts the house in disorder, who dreams and loiters, is not ready at the appointed time to go for a walk. To punish her, we say that she is to lose her walk; Mr. Spencer asserts that the next time she will be ready at the right hour. Is he quite sure of this? In his somewhat imaginary world of docile and pliant children pictured by his optimism, the

erring child yields to the first summons of Nature; merely the idea of the privation that will be inflicted on him, and of which he has had only one experience, makes him reform. We are afraid that in the real world there are stubborn and indocile characters whom it will not prove as easy to convert and restore to order. Another illustration: a boy refuses to put his playthings back in their places. To correct him, the only thing to be done is to take away his box of playthings. First, notice that here, as before, it is not Nature which is the reagent, it is the parents who intervene either to oblige the child to stay at home, or to deprive him of his playthings. But, more than that, who guarantees that the disorderly boy will so quickly repent? May we not suppose that sometimes he will persist in his disorderly habits, if we do not employ other means to correct them? It is much to be feared that this discipline of results would not give what is awaited from it; and we may conclude already that its efficacy would be very far from certain.

But yet another difficulty: whatever Mr. Spencer says about its strict justice, this natural form of discipline is not proportionate in the punishments that it inflicts, either to the physical strength of the wrong-doer, or to the character and gravity of the transgression. Émile has broken the panes

of a window, and a serious cold teaches him not to do this again. Good! But this cold may turn to inflammation of the lungs, if the child is delicate, and the punishment becomes so heavy that it kills the child. Would you expose to the strokes of blind Nature — for, whatever Mr. Spencer may say about the matter, Nature is often blind to decrees unchangeable and inexorable — creatures without distinction, whose power of resistance is so variable? A strong child can bear without injury chills which would benumb a child with delicate lungs to the verge of death, just as shrubs resist frosty days which cause fragile plants to wither and die. Nature, less intelligent and kindly than Mr. Spencer would believe, does not, in its pitiless reactions, take into account at all the infinite diversities and variations of temperament in mankind. It does not weigh in its balance the age and the physical strength or weakness of its dependents. Therefore, we may again conclude that the discipline of natural reactions is bad — bad because hard, unjust, and cruel to the weak.

Yet again, from another point of view, it is unjust; it does not attend to the moral quality of actions. Whether a fault has been committed by imprudence, by stupidity, or, on the other hand, with bad intention, in all these cases the same sentence may

be awarded. In its unconscious and fatal repression, Nature chastises alike the innocent breaking of its laws and voluntary disobedience. It ignores the motives of the actions which it represses. A poor child who, by carelessness or even by excessive zeal, sets fire to its bed while working at night, will be burnt alive just as much as the wretch who sets fire to his house criminally. A child running, who, through imprudence, slips on a stone, may break his leg just as much as the little glutton who falls from the top of a ladder up which he has climbed to reach some forbidden dainties. Nature is not always the good and kindly power dreamt of by evolutionists. Man, and still more the child, must be protected against its severities. It is a question whether humanity would succeed in maintaining life under a rule of natural reactions. As J. S. Mill has said, "The law of gravitation, to mention no other, is the cruellest of all laws; it breaks the neck of the best and most amiable man mercilessly!"

When the conditions of a reaction chance to make its justice exactly balance the deed, the punishment often falls too slowly to benefit the culprit. Frequently it is nothing more than an act of revenge, or of platonic vengeance, so to speak, on the part of Nature, which reacts too late, after the bad habit has taken root and the evil become irreparable.

A scholar is idle; a time will certainly come in his life when he will suffer from this sin of his youth; he is preparing himself to fail in his future career; but when will he reckon up the mischievous consequences of his negligence? Only when the time for remedying them has passed. Nature has no immediate reactions for faults of this kind. At present, idleness gives to the truant only the sweets of revery. The loss of a lesson puts him into a good temper. Moreover, this slow-footed justice is not infallible; Nature, too, makes errors of judgment. A scholar who is idle and intelligent may never feel any ill effects from his indolence at school, while another, less well endowed, may find that it has paralyzed his springs of activity forever.

But what, above everything else, discredits in our eyes the discipline of natural reaction when it is elevated into an exclusive system, is that it makes no appeal to a moral sense. As M. Gérard, who has treated this subject in a masterly way, has pointed out: "Supposing that a child has a hand nimble enough to escape the reactive effect of an imprudent action, a mind sufficiently quick to evade the consequences of a mistake, he escapes. . . . The question in that case is not that of acting rightly, but of being clever and successful." In a mode of discipline, therefore, under which the child need only

to consider the material consequences of his actions, his sole aim may be to secure himself from these, a course which, with a little contrivance, need not be impossible. It will appear lawful to him to lie if he can dissimulate his untruth; to thieve, if his larceny will remain undiscovered. The net of natural justice is not woven so close that a clever wrong-doer cannot hope to escape through its meshes without loss, and unpunished. If, then, the discipline of natural reactions had all the virtues attributed to it by its inventor, there would yet remain this irremediable defect that even if it punishes the fault, it does not moralize the offender. It is empty of a moral concept. It places the child in the presence of physical wrong only. It reminds one of those penitentiary systems which chastise the crime, but do not amend the criminal. How can one hope that the sole memory of the pain inflicted by Nature will have the power to hinder the man or child from falling back into his error? Does the tipsy man remember his headache the day after a drunken bout; is that a big enough counterweight to the attractions and pleasure held out to him by a new visit to the public-house?

To sum up, the discipline of natural reactions is, in many ways, insufficient and hazardous; at times it is unjust and brutal. Does that signify that it

has no advantages, and that we must put it absolutely on one side? No; it may be a useful element in discipline, but on condition that it is made complete: in the first place, by means of rewards, — of these Mr. Spencer says nothing, — then, and above all else, by an appeal to the affections of the child, and to his moral sentiments, for only his conscience can inflict punishments which are really salutary: remorse and repentance. The discipline of results has this merit, that it is in no way capricious like the too often inconsistent discipline of human device, a discipline of commands and counter-commands. It never threatens in vain; its control is mute and inexorable. In consequence, it does not confuse the child by a number of contradictory prescriptions. Lastly, as it never puts the child's will in conflict with that of its parents, it can avoid one of the dangers accompanying education in general: that of irritating children against their parents, who, through constant threats and scolding, finally end by making themselves detested. But, two things should be noted. In the first place, Mr. Spencer is himself obliged to have recourse to parents to aid Nature in punishing the child, and this intervention suffices to bring back the very danger which we were anxious to avoid. And secondly, Mr. Spencer is obliged to put Nature aside, and himself make room in his

system for paternal approval and disapproval, and admit these also as natural reactions. In finely delineated word-pictures he shows us a son saddened because his father receives him coldly, a girl wretched because she fears that she has lost her mother's friendship. Here we are back again in realities. Only we may be allowed to question whether a child, educated according to Mr. Spencer's method, would be inclined to trouble himself about his parents' dissatisfaction. That he must suffer when he burns himself, that lies in the nature of things, since his flesh is naturally sensitive to pain; but for him to be affected by the reproaches of his parents, he must have learnt to love them, — he must have a heart, and Mr. Spencer seems to have forgotten to give him one. What moral sensibility can we expect from a poor little being left without defence, without protection, to the severities of Nature, with no one to console it in its sufferings, to speak to it a word of affection or pity? May we not fear that such a pupil of Nature, one who has never felt in infancy the sweet influences of a parent's tenderness and solicitude, will be cold and unmoved by expressions of their displeasure?

VI

It is time to draw to a conclusion, not that we may insist on omissions and errors, — these are only too clear in the essay on *Education;* what work, even that of a genius, is without blemishes? — but rather to state briefly its essential merits.

Omissions and errors have been pointed out in passing; some others should yet be mentioned. First, it would seem that Mr. Spencer, like Locke, had in mind the education of a "gentleman," of a boy able to consecrate to study the long years of his youth. He constructed a uniform course for all, not taking into account different grades of instruction. Popular education is not directly contemplated; for, in the present state of society, it would be chimerical to propose for a child of the poorer classes, obliged by the necessities of life to earn his bread early, such a wide course of studies and of preparation for "complete living." Moreover, this kind of aristocratic education, like Rousseau's scheme, may be suitable for individual education conducted at home, but not for collective education conducted in common; for the discipline of natural re-

actions would be plainly inapplicable in a school. . . . But without further critical arguments, let us acknowledge the chief error: in a work claiming to be new, there is a certain lack of originality, which is concealed by a brilliant style and a lively imagination in details. Mr. Spencer is a clever stage manager. Thanks to an amazing gift of expression, he clothes the ideas of others magnificently; but as to education it is possibly just to say that the book contains very few really new ideas. . . .

Yet we cannot but admire these brilliant pages, where a profound and humorous thinker has defined with extraordinary distinctness, and animated by a breath of intense life, some of the fundamental principles of the new education. If he restates theories known before, it is in order to develop them broadly and forcibly; also, it is to give to them a personal accent, the full warmth of his philosophic faith, a spirit of liberty, a sentiment of sweetness and humanity, and, finally, what may surprise us, a very noble religious tone.

No one has stronger claim to the title of scientific and philosophic educationist. Although Mr. Spencer appears to us to be aiming towards professional forms of education, he is not a man of science in any special or narrow sense. He looks eagerly towards an inclusive science, that is to say, to a philosophy that

is "unified science." Whatever we may think of the soundness of his hypotheses, we cannot deny their grandeur. He aimed at putting into our hands one of Ariadne's threads to guide our steps through the labyrinth of this universe. In the name of this wide and noble philosophy he invites us to a higher and more modern conception of education. True education, he might say, can be given only by philosophers. How he lifts us above the routine and the paltry studies which tradition has perpetuated in certain spheres of instruction! With what eagerness he shakes off worn-out customs and prejudices! How roundly he scolds masters and parents who would blush and think themselves slandered if they were accused of not knowing the legendary exploits of some fabulous demigod, and yet who avow without embarrassment that they know nothing of the structure of the human body, or about breathing and digestion; who teach to their children the history of the tribes of Israel, and neglect to teach them either the laws of the physical world or the principles of social organization. Under the banner of Spencerian pedagogy will be henceforth enlisted the people who prefer, at the risk of misapplication, the substantial nourishment of science to the trivialities and elegancies of verbal instruction; who would open the mind to the real world,

who wish to form positive and practical men, associated, nevertheless, by the general knowledge they possess to the universal life of Nature and of human societies. Likewise, we must reckon amongst Mr. Spencer's disciples all those who, after having accepted philosophy as the supreme end of education, recommend it also as means, — all who think that good educators must be good psychologists, and that psychology decides the best methods, those which require the best workmen. We must not forget that, unlike Auguste Comte, Mr. Spencer gives psychology a place in his catalogue of the sciences. Like Locke, like J. S. Mill, like Bain, he belongs to that English school of philosophers who have done more to assure a good development to pedagogical theory in England than has been done in any other country, by ascending to its source, that is to say, to psychological studies. "The sceptre of psychology," said J. S. Mill, "has now returned to England;" and Th. Ribot added, "It might be maintained that it never left England."

The scientific spirit united with the philosophic spirit calls for the spirit of freedom. Mr. Spencer is a great liberal and a determined individualist. Socialists have quite wrongly claimed to enroll him in their ranks. It would have been a very fortunate thing for them to have been able to recommend

their theories by the great intellectual authority of the most learned of English sociologists. The unfortunate thing is that this so-called socialist inclines towards a somewhat extreme individualism. So far from being an adherent of a doctrine which tends to put humanity under the yoke of a new despotism, he aspires to a government of absolute liberty. Government, in his opinion, is an evil which is necessary at present, but an evil which is diminishing with the progress of reason. The moral law is the law of freedom amongst equals. "A day will come when every man will know how to unite in his heart an active love of freedom for himself with an active, sympathetic feeling for the freedom of others. Then the limitations of individuality which still exist, whether caused by legal fetters or by private force, will be finally overthrown; no one will be any longer hindered in the development of his individuality, for each, in maintaining his own rights, will respect the rights of others." It would be difficult to find in these prophecies regarding society the least trace of satisfaction with the utopias of collectivists. For the rest, Mr. Spencer has also clearly explained himself. After describing the miserable condition of certain tribes who have made an attempt at communism, — the Redskins of the Hudson and some backward tribes of Eastern

Europe, — he draws the conclusion that "the doctrine of socialism, which is absurd from the point of view of psychology, would be wicked from the biological point of view"; it would bring with it a rapid decadence and dissolution of the social groups, who were captivated by the notion of putting it into practice.

Freedom, the end of social progress, — for the ideal government would combine the least authority with the greatest amount of liberty, — freedom is acquired only by a long effort of Nature. "It is the reward of constant vigilance." It must be developed in the scholar as well as in the adult in so far as this is possible, and respected in a woman as much as in a man. In the delicate question of the equality of the sexes, Mr. Spencer is in theory somewhat hostile to the claims of women. He, in fact, declares that, setting aside exceptional cases, the average intellectual force, like the average physical force, is lower in women than the corresponding average in men. But in practice he shows himself more favourable. "Equity," he says, "demands that we do nothing that will put women at a disadvantage." We must grant to them the same freedom as to men. No restriction should be put upon their choice of a profession. The only thing that should be refused them is participation in

political rights. For this Mr. Spencer gives an interesting reason, that on the day when women are eligible as electors like men, not being subject to the same burdens, — for instance, to the obligation of military service, — they will be placed in a position, not of equality, but of superiority; and he finally refers the solution of the question to an epoch that, alas, is very far in the distance, when the military spirit will have died away, and universal peace will have been finally established.

According to these principles, education, like the social life for which it prepares, should be a movement towards freedom; and, in consequence, it should be guided by gentleness and kindness. Doubtless Mr. Spencer might be reproached for the inhuman hardness of some of his conclusions. In his *Introduction to Social Science*, and in his book, *The Individual against the State*, he renewed certain of Plato's cruel theories by excluding from his Republic defective men. He abandons the infirm and diseased to their unhappy fate, letting no one assist or relieve them. He reckons acts of sentimental philanthropy amongst what he calls "the sins of the law-maker." To feed the incapables at the expense of the capables (he said), this is to accumulate a reserve of misery for posterity. Here the evolutionist speaks, — the machine of progress must

go forward at express rate at the risk of crushing beneath its wheels all who stand in its way. But to those whom he admits into his city, Mr. Spencer is, on the contrary, kind and good. He has himself said of his moral system that "it unites gentleness with inexorableness."

As he upholds an education that is attractive, he advocates a morality not less pleasing. Asceticism inspires him with antipathy. He has nothing but disdain for those severe moralists who have compromised the success of their precepts by expressing them in forms which excite only "repulsion." What a delightful lesson on family discipline he gives in this passage from the *Preface* to his *Data of Ethics*.

If a father, sternly enforcing numerous commands, some needful and some needless, adds to his severe control a behaviour wholly unsympathetic; if his children have to take their pleasures by stealth, or, when timidly looking up from their play, ever meet a cold glance, or more frequently a frown, his government will inevitably be disliked, if not hated, and the aim will be to evade it as much as possible. Contrariwise, a father who, equally firm in maintaining restraints needful for the well-being of his children or the well-being of other persons, not only avoids needless restraints, but, giving his sanction to all legitimate gratifications, and providing the

means for them, looks on at their gambols with an approving smile, can scarcely fail to gain an influence which, no less efficient for the time being, will also be permanently efficient. The control of two such fathers symbolize the control of morality as it is and morality as it should be.

Mr. Spencer, like Rousseau and Michelet, would have children happy and education a delightful task. He has contributed to restore pleasure to the school as well as to life. He considers that pleasant sensations raise the level of existence, that suffering lowers it. He eliminates, as far as possible, oppressive restrictions, restraints that sadden and commands that exact painful efforts from children and superhuman renunciation on the part of their parents. On the other hand, he appeals to the activities, to initiative, to personal will, to all that emancipates, and to all that gives joy.

This is the will of Nature, not the blind Nature of the Epicureans, which lets things move according to chance, but of Nature benevolent and orderly. Humanity, like the universe, has its aim, and it pursues this aim ceaselessly, through vicissitudes and fluctuations, periods of arrest and of recoil which delay progress, but which do not jeopardize its final success. And if Nature is kindly and systematic, it would seem that this must be by the will

of the unknown mysterious power to which it is obedient. Although Mr. Spencer removes Providence, the Supreme Being, afar off into the regions of the unknowable, he invokes its power at each moment, without, for the rest, explaining how he conceives it to be exerted. He would say that all discipline belonging to human institutions is bad, and will fail when separated from the natural discipline divinely ordained. He protests that science in its boldest conclusions is in no way irreligious or impious. Science is hostile to the superstitions which dress themselves in the name of religion, but it is not the enemy of the essential religious spirit which the religions hide and disfigure. Science is "proud" in the presence of traditions and legends; but it is "humble" before the impenetrable veil which hides the Absolute from the eyes of mankind.

Religious expressions abound in the writings of the evolutionist philosopher. He criticises severely scholars who are interested in the amorous intrigues of Mary, Queen of Scots, or who comment learnedly on Greek odes, but who disdain the knowledge of the structure of the skies, and who give not a glance at "the great epic poem written by the finger of God on the strata of the globe." He even goes so far as to claim that the scientist alone is the really

religious man. Only the sincere man of science can truly know how utterly beyond all, — not only human knowledge, but human conception, is the Universal Power, of whom Nature and Life and Thought are manifestations.

These are not empty declarations, precautions dictated, like those of Descartes, by prudence, proceeding from a philosopher who is afraid of embroiling himself with spiritual or temporal powers. The doctrine of Evolution in the mind of Mr. Spencer, as in that of Darwin, does not exclude the idea of a Deity who, although inconceivable, does not the less demand recognition as a necessary hypothesis, seeing that human thought meets, underlying all things, an impenetrable mystery. It is a Deity who recalls the God of Aristotle, a God not known to a world which he knows not, but who is, nevertheless, the final cause of the world; and towards Him the world is eternally aspiring, guided and urged on by irresistible, attractive force.

Let us add, lastly, that this mysterious Deity is He who inspires in man the religion of love, as opposed to the religion of hate. The latter is persistently taught by our masters every day of the week, by making children study Greek and Roman epics — Mr. Spencer certainly does not like the classics; the former is taught one day in the week,

Sunday, through the reading of the New Testament. But this matters little, for the religion of love is slowly spreading and permeating men's hearts as civilization advances. It will in the end triumph, and after boundless progress it will reign on the earth in a golden age; then will come the end of all misery, the death of all hatred, eternal happiness.

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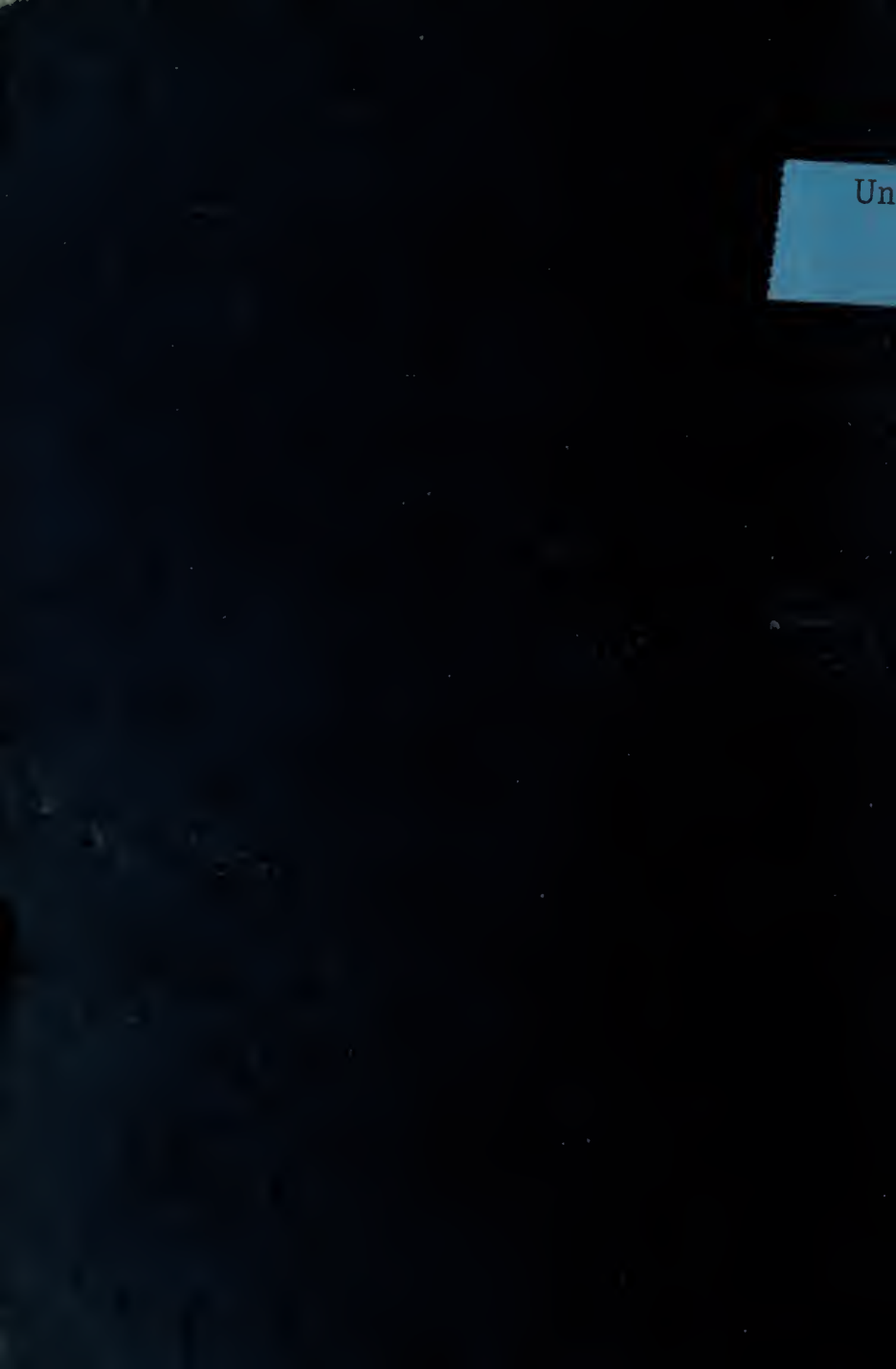
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